2013 GMC Terrain/Terrain Denali Owner Manual

In Brief 1-1
Instrument Panel 1-2
Initial Drive Information 1-4
Vehicle Features 1-15
Performance and Maintenance 1-19

Keys, Doors, and Windows 2-1
Keys and Locks 2-1
Doors 2-8
Vehicle Security 2-12
Exterior Mirrors 2-14
Interior Mirrors 2-16
Windows 2-16
Roof 2-18

Seats and Restraints 3-1
Head Restraints 3-2
Front Seats 3-3
Rear Seats 3-9
Safety Belts 3-11
Airbag System 3-19
Child Restraints 3-33

Storage 4-1
Storage Compartments 4-1
Additional Storage Features ... 4-2
Roof Rack System 4-2

Instruments and Controls 5-1
Controls 5-2
Warning Lights, Gauges, and Indicators 5-6
Information Displays 5-21
Vehicle Messages 5-24
Vehicle Personalization 5-31
Universal Remote System 5-36

Lighting 6-1
Exterior Lighting 6-1
Interior Lighting 6-4
Lighting Features 6-5

Infotainment System 7-1
Introduction 7-1

Climate Controls 8-1
Climate Control Systems 8-1
Air Vents 8-6
Maintenance 8-6

Driving and Operating 9-1
Driving Information 9-2
Starting and Operating 9-19
Engine Exhaust 9-25
Automatic Transmission 9-26
Drive Systems 9-29
Brakes 9-30
Ride Control Systems 9-32
Cruise Control 9-35
Object Detection Systems 9-37
Fuel 9-48
Towing 9-53
Conversions and Add-Ons ... 9-59

Vehicle Care 10-1
General Information 10-2
Vehicle Checks 10-3
Headlamp Aiming 10-26
Bulb Replacement 10-27
Electrical System 10-32
Wheels and Tires 10-38

Information Provided by:
DEALER E-PROCESS

Jump Starting 10-67
Towing 10-69
Appearance Care 10-73

Service and Maintenance . . . 11-1
General Information 11-1
Maintenance Schedule 11-3
Special Application Services 11-8
Additional Maintenance and Care 11-9
Recommended Fluids, Lubricants, and Parts 11-12
Maintenance Records 11-15

Technical Data 12-1
Vehicle Identification 12-1
Vehicle Data 12-2

Customer Information 13-1
Customer Information 13-2
Reporting Safety Defects 13-18
Vehicle Data Recording and Privacy 13-19

OnStar 14-1
OnStar Overview 14-1
OnStar Services 14-2
OnStar Additional Information 14-5

Index i-1

Information Provided by:
DEALER E-PROCESS



The names, logos, emblems, slogans, vehicle model names, and vehicle body designs appearing in this manual including, but not limited to, GM, the GM logo, GMC, the GMC Truck Emblem, TERRAIN, and DENALI are trademarks and/or service marks of General Motors LLC, its subsidiaries, affiliates, or licensors.

This manual describes features that may or may not be on your specific vehicle either because they are options that you did not purchase or due to changes subsequent to the printing of this owner manual.

Please refer to the purchase documentation relating to your specific vehicle to confirm each of the features found on your vehicle. For vehicles first sold in Canada, substitute the name “General Motors of Canada Limited” for GMC Motor Division wherever it appears in this manual.

Keep this manual in the vehicle for quick reference.

Canadian Vehicle Owners

Propriétaires Canadiens

A French language copy of this manual can be obtained from your dealer or from:

On peut obtenir un exemplaire de ce guide en français auprès du concessionnaire ou à l'adresse suivante:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Using this Manual

To quickly locate information about the vehicle, use the Index in the back of the manual. It is an alphabetical list of what is in the manual and the page number where it can be found.

Litho in U.S.A.
Part No. 20960971 A First Printing

Information Provided by: DEALER E-PROCESS

©2012 General Motors LLC. All Rights Reserved.

Danger, Warnings, and Cautions

Warning messages found on vehicle labels and in this manual describe hazards and what to do to avoid or reduce them.

Danger indicates a hazard with a high level of risk which will result in serious injury or death.

Warning or **Caution** indicates a hazard that could result in injury or death.

⚠ WARNING

These mean there is something that could hurt you or other people.

Notice: **This means there is something that could result in property or vehicle damage. This would not be covered by the vehicle's warranty.**



A circle with a slash through it is a safety symbol which means “Do Not,” “Do not do this,” or “Do not let this happen.”

Symbols

The vehicle has components and labels that use symbols instead of text. Symbols are shown along with the text describing the operation or information relating to a specific component, control, message, gauge, or indicator.

: This symbol is shown when you need to see your owner manual for additional instructions or information.

: This symbol is shown when you need to see a service manual for additional instructions or information.

Information Provided by: DEALER E-PROCESS

Vehicle Symbol Chart

Here are some additional symbols that may be found on the vehicle and what they mean. For more information on the symbol, refer to the Index.

: Airbag Readiness Light

: Air Conditioning

: Antilock Brake System (ABS)

: Brake System Warning Light

: Charging System

: Cruise Control

: Engine Coolant Temperature

: Exterior Lamps

: Fog Lamps

: Fuel Gauge

: Fuses

: Headlamp High/Low-Beam Changer

: LATCH System Child Restraints

: Malfunction Indicator Lamp

: Oil Pressure

: OnStar®

: Power

: Remote Vehicle Start

: Safety Belt Reminders

: Steering Wheel Controls

: Tire Pressure Monitor

: Traction Control/StabiliTrak®

: Windshield Washer Fluid

Information Provided by: DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

In Brief

Instrument Panel

Instrument Panel 1-2

Initial Drive Information

Initial Drive Information 1-4
Remote Keyless Entry (RKE) System 1-4
Remote Vehicle Start 1-4
Door Locks 1-5
Liftgate 1-6
Windows 1-6
Seat Adjustment 1-7
Memory Features 1-8
Heated Seats 1-9
Head Restraint Adjustment 1-9
Safety Belts 1-10
Passenger Sensing System 1-10
Mirror Adjustment 1-10
Steering Wheel Adjustment 1-11
Interior Lighting 1-11
Exterior Lighting 1-12
Windshield Wiper/Washer 1-12
Climate Controls 1-13
Parking Brake 1-14
Transmission 1-15

Vehicle Features

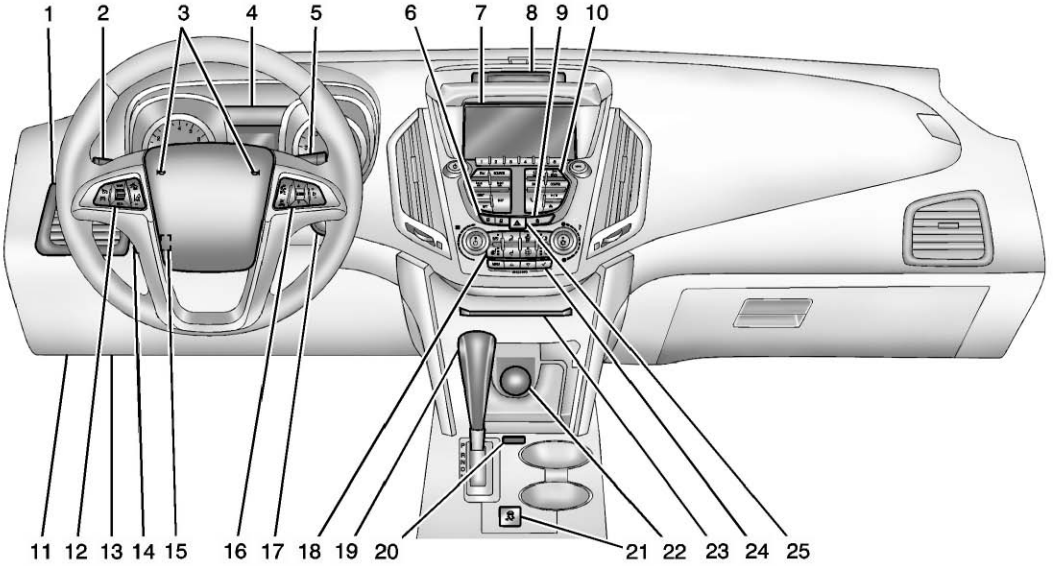
Steering Wheel Controls 1-15
Cruise Control 1-16
Infotainment System 1-16
Driver Information Center (DIC) 1-16
Forward Collision Alert (FCA) System 1-17
Lane Departure Warning (LDW) 1-17
Side Blind Zone Alert (SBZA) 1-18
Rear Vision Camera (RVC) 1-18
Ultrasonic Parking Assist 1-18
Roof Rack System 1-18
Power Outlets 1-19
Universal Remote System . . . 1-19

Performance and Maintenance

Traction Control System (TCS) 1-19
StabiliTrak® System 1-20
Tire Pressure Monitor 1-20
Engine Oil Life System 1-20
Fuel E85 (85% Ethanol) 1-21
Driving for Better Fuel Economy 1-21
Roadside Assistance Program 1-21
OnStar® 1-22

Information Provided by: DEALER E-PROCESS

Instrument Panel



Information Provided by:
DEALER E-PROCESS

1. *Air Vents on page 8-6*.
2. Turn and Lane-Change Lever. See *Turn and Lane-Change Signals on page 6-3*.

 Exterior Lamp Controls on page 6-1.

 Fog Lamps on page 6-4.
3. *Horn on page 5-3*.
4. *Instrument Cluster on page 5-7*.
5. *Windshield Wiper/Washer on page 5-3*.

 Rear Window Wiper/Washer on page 5-4.
6. *Power Door Locks on page 2-7*.
7. Touchscreen (If Equipped).
8. Forward Collision Alert (FCA) Display (If Equipped). See *Forward Collision Alert (FCA) System on page 9-37*.

 Lane Departure Warning (LDW) Indicator (If Equipped). See *Lane Departure Warning (LDW) on page 9-46*.
9. *Safety Locks on page 2-7*.
10. *Infotainment on page 7-1*.

 Navigation System (If Equipped). See the infotainment manual.
11. Hood Release. See *Hood on page 10-4*.
12. *Cruise Control on page 9-35*.

 Forward Collision Alert (FCA) Button (If Equipped). See *Forward Collision Alert (FCA) System on page 9-37*.

 Lane Departure Warning (LDW) Button (If Equipped). See *Lane Departure Warning (LDW) on page 9-46*.
13. Data Link Connector (DLC) (Out of View). See *Malfunction Indicator Lamp on page 5-12*.
14. *Instrument Panel Illumination Control on page 6-4*.
15. *Steering Wheel Adjustment on page 5-2*.
16. *Steering Wheel Controls on page 5-2*.
17. *Ignition Positions on page 9-19*.
18. *Climate Control Systems on page 8-1* (If Equipped).

 Automatic Climate Control System on page 8-3 (If Equipped).
19. Shift Lever. See *Automatic Transmission on page 9-26*.
20. *Fuel Economy Mode on page 9-29* (If Equipped).
21. *StabiliTrak® System on page 9-33*.
22. *Power Outlets on page 5-5*.
23. CD Player Slot. See the infotainment manual.
24. Driver Information Center (DIC) Buttons. See *Driver Information Center (DIC) on page 5-21*.
25. *Hazard Warning Flashers on page 6-3*.

Information Provided by: DEALER E-PROCESS

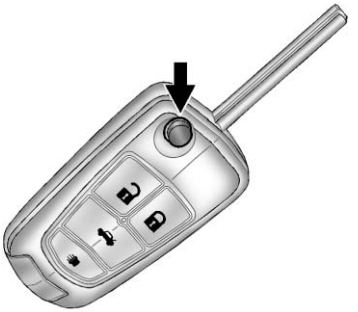
Initial Drive Information

This section provides a brief overview about some of the important features that may or may not be on your specific vehicle.

For more detailed information, refer to each of the features which can be found later in this owner manual.

Remote Keyless Entry (RKE) System

The Remote Keyless Entry (RKE) transmitter may work up to 60 m (195 ft) away from the vehicle.



Press this button to extend the key. The key can be used for the ignition and all locks.

: Press to unlock the driver door or all doors.

For vehicles with the manual liftgate, press twice within 5 seconds, to unlock the liftgate.

: Press to lock all doors.

Lock and unlock feedback can be personalized.

: For vehicles with the power liftgate, press and hold until the liftgate begins to move.

: Press and release to initiate vehicle locator. Press and hold for at least three seconds to sound the panic alarm. Press again to cancel the panic alarm.

See *Keys on page 2-1* and *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Remote Vehicle Start

With this feature the engine can be started from outside of the vehicle.

Starting the Vehicle

1. Press and release on the Remote Keyless Entry transmitter.

Information Provided by: DEALER E-PROCESS

2. Immediately press and hold for at least two seconds or until the signal lamps flash.

 The parking lamps will turn on and remain on as long as the engine is running. The vehicle's doors will be locked.

3. The key must be inserted and turned to ON/RUN before driving.

The engine will shut off after 10 minutes unless a time extension is done or the key is inserted and turned to ON/RUN.

Canceling a Remote Start

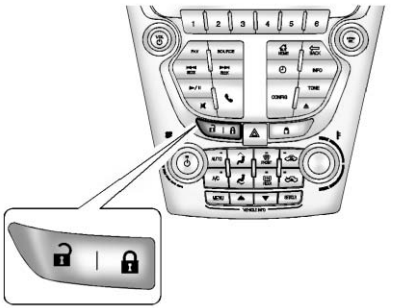
To cancel a remote start, do one of the following:

- Press until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Insert the key and turn it to ON/RUN and then back to LOCK/OFF.

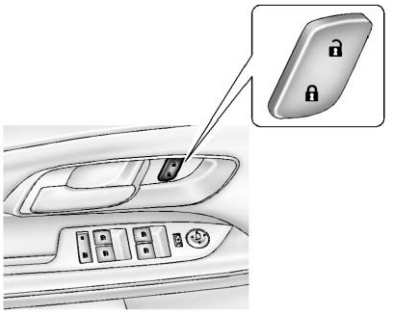
See *Remote Vehicle Start on page 2-4*.

Door Locks

To lock or unlock the vehicle from the outside, press or on the Remote Keyless Entry (RKE) transmitter.



There is a power door lock switch on the instrument panel.



There are power door lock switches on the front door panels.

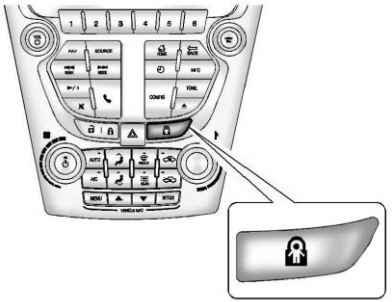
: Press to lock the doors.

: Press to unlock the doors.

See *Door Locks on page 2-6*.

To manually unlock a door from inside the vehicle, pull once on the door handle to unlock it, and a second time to open it.

Information Provided by: DEALER E-PROCESS



: Press for Safety Locks. See *Safety Locks on page 2-7*.

Liftgate

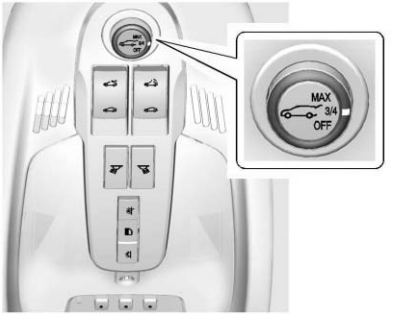
Manual Liftgate Operation

Unlock the vehicle before opening the liftgate.

To open the liftgate, press the touch pad under the liftgate handle and lift up.

Do not press the touch pad while closing the liftgate. This may cause the liftgate to be unlatched.

Power Liftgate Operation



On vehicles with a power liftgate, the vehicle must be in P (Park) to use the power feature. The taillamps flash when the power liftgate moves.

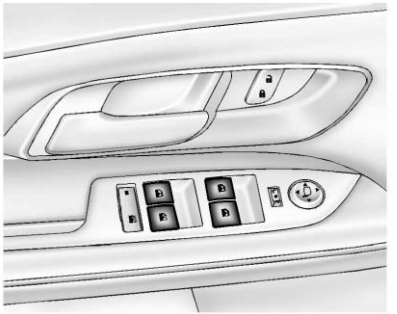
Choose the power liftgate mode by turning the dial on the switch to either the 3/4 or MAX position.

Press to open or close the liftgate.

See *Liftgate on page 2-8*.

Information Provided by:
DEALER E-PROCESS

Windows



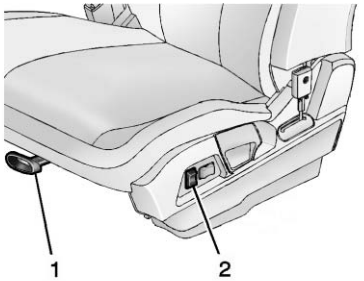
Press the front of the switch to lower the window. Pull the switch up to raise it.

Pushing or pulling the switch part of the way will open or close the window as long as the switch is operated.

See *Power Windows on page 2-17*.

Seat Adjustment

Four-Way Power Seat



1. Seat Position Handle
2. Height Adjustment Control

To adjust the seat, if equipped:

- Move the seat forward or rearward using the handle under the front of the seat cushion (1). See *Seat Adjustment on page 3-3*.
- Raise or lower the entire seat by moving the control (2) up or down.

See *Power Seat Adjustment on page 3-4*.

Eight-Way Power Seat

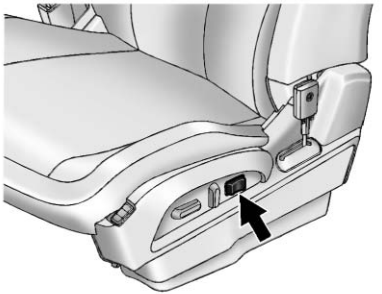


To adjust a power seat, if equipped:

- Move the seat forward or rearward by sliding the control forward or rearward.
- Raise or lower the front or rear part of the seat cushion by moving the front or rear of the control up or down.
- Raise or lower the entire seat by moving the entire control up or down.

See *Power Seat Adjustment on page 3-4*.

Lumbar Adjustment



Eight-Way Power Seat Shown, Four-Way Similar

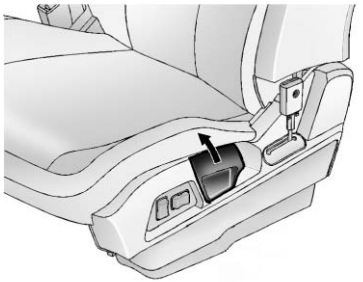
If available, press and hold the front or rear of the switch to increase or decrease lumbar support. Release the switch when the seatback reaches the desired level of lumbar support.

Information Provided by: DEALER E-PROCESS

See *Lumbar Adjustment on page 3-5*.

Reclining Seatbacks

Manual Reclining Seatbacks



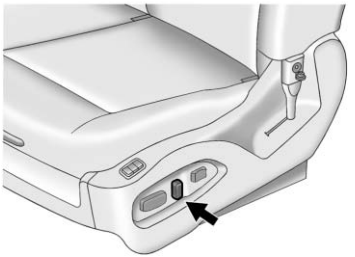
To recline a manual seatback:

1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

Power Reclining Seatbacks

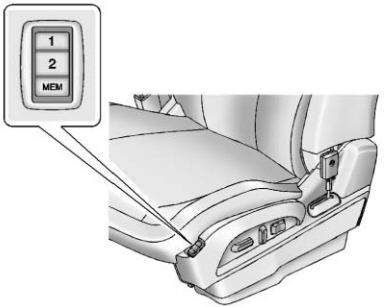


To adjust a power seatback, if available:

- Tilt the top of the control rearward to recline.
- Tilt the top of the control forward to raise.

See *Reclining Seatbacks on page 3-5*.

Memory Features



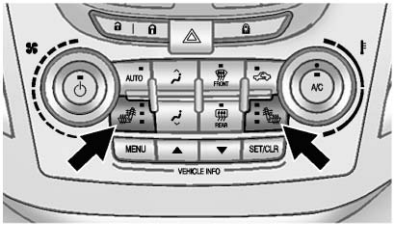
If available, the “1” and “2” buttons on the outboard side of the driver seat are used to manually save and recall the driver seat and outside mirror positions. These manually stored positions are referred to as Button Memory positions.

Powered by: DEALER E-PROCESS

The vehicle will also automatically save driver seat and outside mirror positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is turned off. These automatically stored positions are referred to as RKE Memory positions.

See *Memory Seats on page 3-7* and *Vehicle Personalization on page 5-31*.

Heated Seats



Uplevel Climate Control System Shown, Base Similar

If available, the buttons are near the climate controls. To operate, the ignition must be in ON/RUN.

Press or to heat the driver or passenger seat cushion and seatback.

Indicator lights on the button show the temperature setting.

See *Heated Front Seats on page 3-8*.

Information Provided by: DEALER E-PROCESS

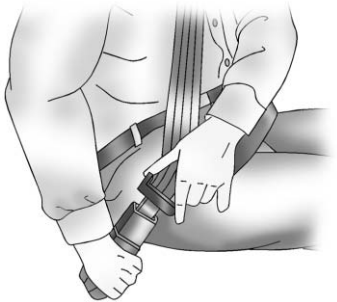
Head Restraint Adjustment

Do not drive until the head restraints for all occupants are installed and adjusted properly.

To achieve a comfortable seating position, change the seatback recline angle as little as necessary while keeping the seat and the head restraint height in the proper position.

See *Head Restraints on page 3-2* and *Seat Adjustment on page 3-3*.

Safety Belts



Refer to the following sections for important information on how to use safety belts properly:

- *Safety Belts on page 3-11*.
- *How to Wear Safety Belts Properly on page 3-12*.
- *Lap-Shoulder Belt on page 3-13*.
- *Lower Anchors and Tethers for Children (LATCH System) on page 3-40*.

Passenger Sensing System



United States



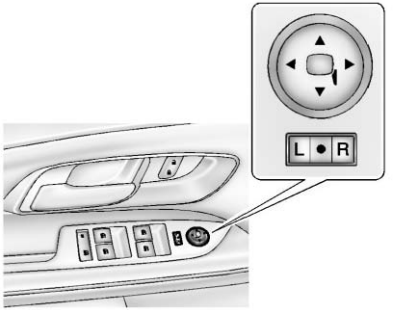
Canada

The passenger sensing system will turn off the right front passenger frontal airbag under certain conditions. The driver airbag, seat-mounted side impact airbags, and roof-rail airbags are not affected by the passenger sensing system.

The passenger airbag status indicator will be visible on the overhead console when the vehicle is started. See *Passenger Sensing System on page 3-26* for more information.

Mirror Adjustment

Exterior



To adjust the mirrors:

1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.

Information Provided by:
DEALER E-PROCESS

2. Press the arrows on the control pad to move each mirror in the desired direction.
3. Return the selector switch to the middle position.

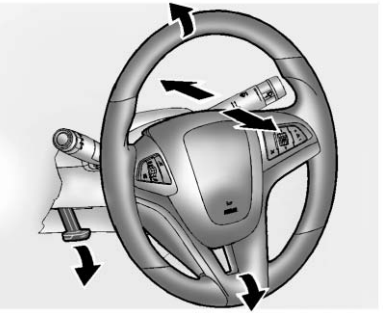
See *Power Mirrors on page 2-14*.

Interior

Vehicles with an automatic dimming inside rearview mirror can automatically reduce the glare from the headlamps of the vehicle behind you. The dimming feature comes on and the indicator light comes on each time the vehicle is started.

See *Automatic Dimming Rearview Mirror on page 2-16*.

Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Information Provided by: DEALER E-PROCESS

Interior Lighting

Reading Lamps

These lamps are located on the overhead console. These lamps come on automatically when any door is opened.

For manual operation, press the button next to each lamp to turn it on or off.

Dome Lamps

There are front and rear dome lamps.

The dome lamp controls are located in the overhead console. To change the settings, press the following:

: Turns the lamp off, even when a door is open.

: The lamps come on automatically when a door is opened.

: Turns the dome lamps on.

The dome lamps can also be turned on and off by pressing the buttons next to the lamps.

For more information on interior lighting, See *Instrument Panel Illumination Control on page 6-4*.

Exterior Lighting



The exterior lamp control is located on the turn signal lever.

: Turn to operate the exterior lamps.

: Briefly turn to this position to turn the automatic light control off or on again.

AUTO: Turns the exterior lamps on and off automatically depending on the exterior light.

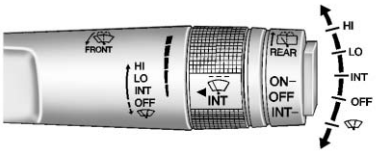
: Turns on the parking lamps, together with the sidemarker lamps, taillamps, license plate lamps, and instrument panel lights.

: Turns on the headlamps, together with the parking lamps, sidemarker lamps, taillamps, license plate lamps, and instrument panel lights.

For more information, see:

- *Exterior Lamp Controls on page 6-1*.
- *Daytime Running Lamps (DRL) on page 6-2*.
- *Fog Lamps on page 6-4*.

Windshield Wiper/Washer

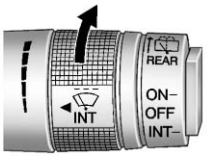


The windshield wiper/washer lever is located on the right side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

HI: Use for fast wipes.

LO: Use for slow wipes.

INT: Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes.



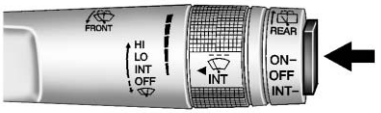
OFF: Use to turn the wipers off.

: For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

FRONT: Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers.

Rear Window Wiper/Washer

The rear wiper controls are on the end of the windshield wiper lever.



ON: Press the upper portion of the button for continuous rear window wipes.

OFF: The rear wiper turns off when the button is returned to the middle position.

INT: Press the lower portion of the button to set a delay between wipes.

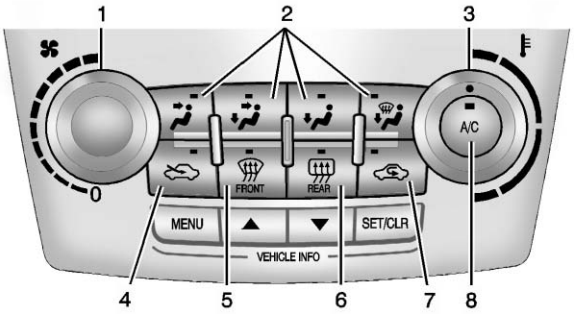
REAR: Push the windshield wiper lever forward to spray washer fluid on the rear window.

See *Windshield Wiper/Washer on page 5-3* and *Rear Window Wiper/Washer on page 5-4*.

Climate Controls

The vehicle's heating, cooling, defrosting, and ventilation can be controlled with these systems.

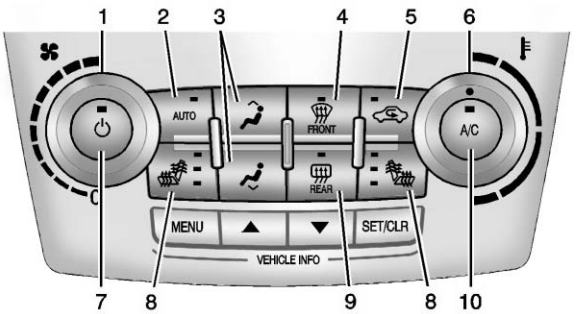
Climate Control System



1. Fan Control
2. Air Delivery Mode Controls
3. Temperature Control
4. Outside Air
5. Front Defrost
6. Rear Window Defogger
7. Recirculation
8. Air Conditioning

Information Provided by:
DEALER E-PROCESS

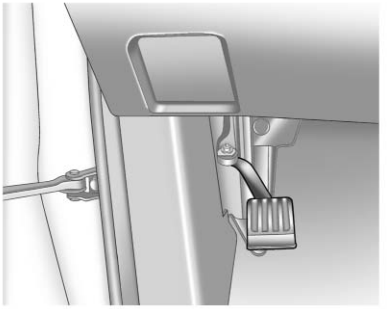
Automatic Climate Control System



1. Fan Control
2. AUTO (Automatic Operation)
3. Air Delivery Mode Controls
4. Front Defrost
5. Recirculation
6. Temperature Control
7. Power
8. Driver and Passenger Heated Seats
9. Rear Window Defogger
10. Air Conditioning

See *Climate Control Systems on page 8-1* (If Equipped) or *Automatic Climate Control System on page 8-3* (If Equipped).

Parking Brake



To set the parking brake, hold the regular brake pedal down, then push the parking brake pedal down.

If the ignition is on, the brake system warning light will come on. See *Brake System Warning Light on page 5-14*.

To release the parking brake, hold the regular brake pedal down, then push down momentarily on the parking brake pedal until you feel the pedal release. Slowly pull your foot up off the park brake pedal.

Information Provided by: DEALER E-PROCESS

See *Parking Brake on page 9-31*.

Transmission

Electronic Range Select (ERS) Mode

ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving down hill or towing a trailer to limit the top gear and vehicle speed.

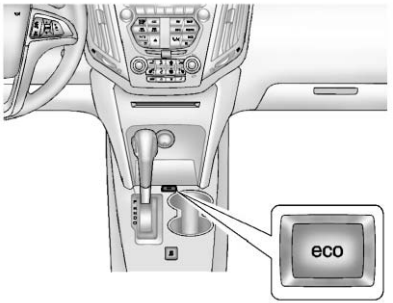
To use this feature:

1. Move the shift lever to M (Manual Mode).
2. Press the plus/minus button on the shift lever, to increase or decrease the gear range available.

See *Manual Mode on page 9-28* for more information.

Fuel Economy Mode

Vehicles with a 2.4L engine have a Fuel Economy Mode. When engaged, fuel economy mode can improve the vehicle's fuel economy.

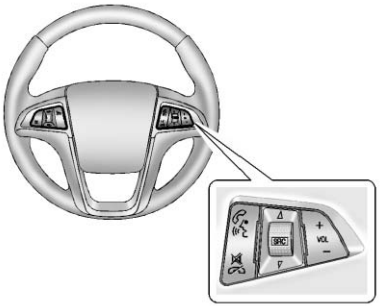


Press the “eco” (economy) button by the shift lever to turn this feature on or off. The “eco” light in the instrument cluster will come on when engaged, and a Driver Information Center (DIC) message “ECO MODE ON” displays. See *Fuel Economy Mode on page 9-29*.

Information Provided by:
DEALER E-PROCESS

Vehicle Features

Steering Wheel Controls



Some audio steering wheel controls can be adjusted at the steering wheel.

/ : Press to interact with the available Bluetooth or OnStar systems.

/ : Press to silence the vehicle speakers only. Press again to turn the sound on. For vehicles with OnStar or Bluetooth systems, press to reject an incoming call, or end a current call.

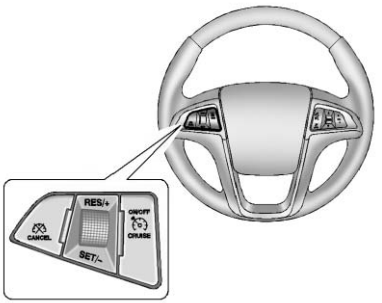
SRC : Press to select an audio source.

Toggle up or down to select the next or previous favorite radio station, CD, or MP3 track.

+ VOL −: Press + to increase the volume; press − to decrease the volume.

For more information, see *Steering Wheel Controls on page 5-2*.

Cruise Control



ON/OFF CRUISE: Press to turn the cruise control system on and off.

CANCEL: Press to disengage cruise control without erasing the set speed from memory.

RES/+: Move the thumbwheel up to make the vehicle resume to a previously set speed or to accelerate.

SET/−: Move the thumbwheel down toward SET/- to set a speed and activate cruise control, or to make the vehicle decelerate.

See *Cruise Control on page 9-35*.

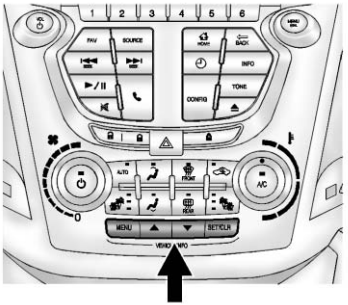
Infotainment System

See the infotainment manual for information on the radio, audio players, phone, navigation system, and voice or speech recognition. It also includes information on settings and downloadable applications (if equipped).

Driver Information Center (DIC)

The DIC display is located in the center of the instrument panel cluster. It shows the status of many vehicle systems.

Information Provided by:
DEALER E-PROCESS



The DIC buttons are located below the climate control system.

MENU: Press this button to get to the Trip/Fuel Menu and the Vehicle Information Menu.

▲ or ▼: Use these buttons to scroll through the items in each menu. A small marker will move along the page as you scroll through the items. This shows where each page is in the menu.

SET/CLR: Use this button to set or clear the menu item when it is displayed.

For more information, see *Driver Information Center (DIC) on page 5-21*.

Forward Collision Alert (FCA) System

For vehicles with FCA, this system is intended to help avoid or reduce the harm caused by front-end crashes. FCA provides a flashing visual alert and beeps when approaching a vehicle directly ahead too quickly. FCA also provides a visual alert if following another vehicle much too closely. The forward-looking FCA camera sensor is on the windshield ahead of the rearview mirror. FCA detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 40 km/h (25 mph).

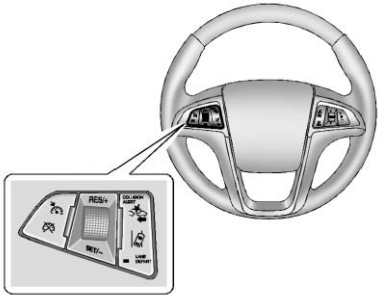
See *Forward Collision Alert (FCA) System on page 9-37* for more information.

Information Provided by: DEALER E-PROCESS

Lane Departure Warning (LDW)

For vehicles with LDW, it is intended to help avoid unintentional lane departures. It may provide a warning if the vehicle is crossing a lane without using a turn signal. LDW uses a camera sensor to detect the lane markings. It only operates at speeds of 56 km (35 mph) or greater.

The LDW indicator, , appears green if a lane marking is detected. It changes to amber, flashes, and sounds three chimes if the vehicle crosses a detected lane marking without using the turn signal.



To turn LDW on and off, press the LANE DEPART button, located on the steering wheel.

See *Lane Departure Warning (LDW) on page 9-46* for more information.

Side Blind Zone Alert (SBZA)

If available, SBZA will alert the driver to vehicles in the vehicle's side blind zone. When the system detects a vehicle in the side blind zone, the SBZA display will light up in the corresponding outside side mirror and will flash if the turn signal is on.

See *Side Blind Zone Alert (SBZA) on page 9-41*.

Rear Vision Camera (RVC)

If available, the rear vision camera displays a view of the area behind the vehicle when the vehicle is shifted into R (Reverse). The display will appear on the radio screen.

To clean the camera lens above the license plate, rinse it with water and wipe it with a soft cloth.

See *Rear Vision Camera (RVC) on page 9-43*.

Ultrasonic Parking Assist

If available, this system uses sensors on the rear bumper to assist with parking and avoiding objects while in R (Reverse). It operates at speeds less than 8 km/h (5 mph). URPA uses audible beeps to provide distance and system information.

Keep the sensors on the vehicle's rear bumper clean to ensure proper operation.

See *Ultrasonic Parking Assist on page 9-39*.

Roof Rack System

The roof rack cross rails can be locked in four positions along the roof rack side rails. Lift the lever to release and move the cross rail. Push the lever down to completely engage into the side rail holes. Slide the cross rails back and forth until the lock pins engage in the holes and a click is heard.

When the roof rack is not in use, lock one cross rail at the furthest forward position and lock the other cross rail at the furthest rearward position to reduce wind noise. See *Roof Rack System on page 4-2*.

Power Outlets

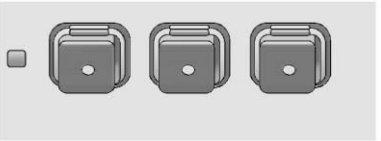
The accessory power outlets can be used to connect electrical equipment, such as a cell phone or MP3 player.

There are four accessory power outlets in the following locations: below the CD slot, inside the center console storage, on the rear of the center console storage, and in the rear cargo compartment.

To use the outlets, remove the cover and close when not in use.

See *Power Outlets on page 5-5*.

Universal Remote System



This system, in the overhead console, provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Read the instructions completely before attempting to program the Universal Remote system. Because of the steps involved, it may be helpful to have another person available to assist with programming the Universal Remote system.

See *Universal Remote System on page 5-36*.

Performance and Maintenance

Traction Control System (TCS)

The traction control system limits wheel spin. The system is on when the vehicle is started.

- To turn off traction control, press and release OFF on the console. TC illuminates and the appropriate DIC message displays. See *Vehicle Messages on page 5-24*.
- Press and release OFF again to turn traction control back on.

See *Traction Control System (TCS) on page 9-32*.

Information Provided by: DEALER E-PROCESS

StabiliTrak® System

The StabiliTrak system assists with directional control of the vehicle in difficult driving conditions. The system is on when the vehicle is started.

- To turn off both Traction Control and StabiliTrak, press and hold OFF until OFF and VC illuminate and the appropriate DIC message displays. See *Vehicle Messages on page 5-24*.
- Press OFF again to turn on both systems.

See *StabiliTrak® System on page 9-33*.

Tire Pressure Monitor

This vehicle may have a Tire Pressure Monitor System (TPMS).



The low tire pressure warning light alerts to a significant loss in pressure of one of the vehicle's tires. If the warning light comes on, stop as soon as possible and inflate the tires to the recommended pressure shown on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-14*. The warning light will remain on until the tire pressure is corrected.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This may be an early indicator that the tire pressures are getting low and the tires need to be inflated to the proper pressure.

The TPMS does not replace normal monthly tire maintenance. Maintain the correct tire pressures.

See *Tire Pressure Monitor System on page 10-46*.

Engine Oil Life System

The engine oil life system calculates engine oil life based on vehicle use and displays the CHANGE ENGINE OIL SOON message when it is time to change the engine oil and filter. The oil life system should be reset to 100% only following an oil change.

Resetting the Oil Life System

1. Turn the ignition to ON/RUN, with the engine off.
2. Press the DIC MENU button to display the Vehicle Information menu.
3. Press either the up or down arrows to view REMAINING OIL LIFE.

Information Provided by: DEALER E-PROCESS

4. Press the SET/CLR button until 100% is displayed.
5. Turn the key to LOCK/OFF.

Or:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

See *Engine Oil Life System on page 10-11*.

Fuel E85 (85% Ethanol)

Vehicles that have a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-50*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-48*.

Driving for Better Fuel Economy

Driving habits can affect fuel mileage. Here are some driving tips to get the best fuel economy possible.

- Avoid fast starts and accelerate smoothly.
- Brake gradually and avoid abrupt stops.
- Avoid idling the engine for long periods of time.
- When road and weather conditions are appropriate, use cruise control.
- Always follow posted speed limits or drive more slowly when conditions require.
- Keep vehicle tires properly inflated.
- Combine several trips into a single trip.
- Replace the vehicle's tires with the same TPC Spec number molded into the tire's sidewall near the size.
- Follow recommended scheduled maintenance.

Roadside Assistance Program

U.S.: 1-888-881-3302

TTY Users (U.S. Only): 1-888-889-2438

Canada: 1-800-268-6800

Mexico: 01-800-466-0801

As the owner of a new GMC, you are automatically enrolled in the Roadside Assistance program.

See *Roadside Assistance Program (Mexico) on page 13-7* or *Roadside Assistance Program (U.S. and Canada) on page 13-11*.

Information Provided by: DEALER E-PROCESS

Roadside Assistance and OnStar (U.S. and Canada)

If the vehicle has an active OnStar subscription, contact OnStar and the vehicle's current GPS location will be sent to an OnStar advisor to assess the situation, contact Roadside Assistance, and relay the exact location to send help.

OnStar®

If equipped, this vehicle has a comprehensive, in-vehicle system that can connect to a live Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services. See *OnStar Overview on page 14-1*.

Information Provided by:
DEALER E-PROCESS

Keys, Doors, and Windows

Keys and Locks
Keys 2-1
Remote Keyless Entry (RKE) System 2-2
Remote Keyless Entry (RKE) System Operation 2-3
Remote Vehicle Start 2-4
Door Locks 2-6
Power Door Locks 2-7
Safety Locks 2-7

Doors
Liftgate 2-8

Vehicle Security
Vehicle Security 2-12
Vehicle Alarm System 2-12
Immobilizer 2-13
Immobilizer Operation 2-13

Exterior Mirrors
Convex Mirrors 2-14
Power Mirrors 2-14
Heated Mirrors 2-14
Blind Spot Mirrors 2-14
Park Tilt Mirrors 2-15

Interior Mirrors
Manual Rearview Mirror 2-16
Automatic Dimming Rearview Mirror 2-16

Windows
Windows 2-16
Power Windows 2-17
Sun Visors 2-18

Roof
Sunroof 2-18

Keys and Locks

Keys

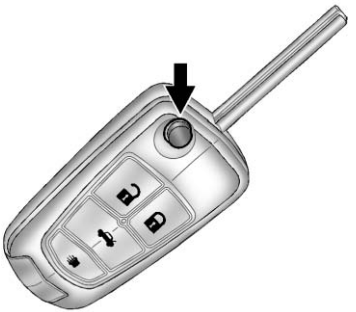
⚠ WARNING

Leaving children in a vehicle with the ignition key is dangerous and children or others could be seriously injured or killed. They could operate the power windows or other controls or make the vehicle move. The windows will function with the keys in the ignition, and children or others could be caught in the path of a closing window. Do not leave children in a vehicle with the ignition key.

Information Provided by: DEALER E-PROCESS



The key that is part of the Remote Keyless Entry (RKE) transmitter can be used for the ignition and all locks.



Press the button on the RKE transmitter to extend the key. Press the button and the key blade to retract the key.

See your dealer if a new key is needed.

If the vehicle has an ignition and it becomes difficult to turn the key, inspect the key blade for debris. Periodically clean with a brush or pick.

If locked out of the vehicle, see *Roadside Assistance Program (Mexico) on page 13-7* or *Roadside Assistance Program (U.S. and Canada) on page 13-11*.

With an active OnStar subscription, an OnStar Advisor may remotely unlock the vehicle. See *OnStar Overview on page 14-1*.

Remote Keyless Entry (RKE) System

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

If there is a decrease in the RKE operating range:

- Check the distance. The transmitter may be too far from the vehicle.

Information Provided by: DEALER E-PROCESS

- Check the location. Other vehicles or objects may be blocking the signal.
- Check the transmitter's battery. See “Battery Replacement” later in this section.
- If the transmitter is still not working correctly, see your dealer or a qualified technician for service.

Remote Keyless Entry (RKE) System Operation

The Remote Keyless Entry (RKE) transmitter may work up to 60 m (195 ft) away from the vehicle.

There are other conditions which can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-2*.



RKE Without Remote Start Shown

The following may be available:

(Lock): Press to lock all doors. The turn signal indicators may flash and/or the horn may sound to indicate locking. See “Remote Lock Feedback” under *Vehicle Personalization on page 5-31*. If a passenger door is open when is pressed, all doors lock. If the driver door is open when is pressed, all doors lock except the driver door. These settings can be modified. See “Unlocked Door Anti Lock Out” under *Vehicle Personalization on page 5-31*.

Pressing may also arm the theft-deterrent system. See *Vehicle Alarm System on page 2-12*.

(Unlock): Press to unlock the driver door or all doors. See “Remote Door Unlock” under *Vehicle Personalization on page 5-31*. The turn signal indicators flash to indicate unlocking has occurred. For more information see “Remote Unlock Light Feedback” under *Vehicle Personalization on page 5-31*.

Pressing may also disarm the theft-deterrent system. See *Vehicle Alarm System on page 2-12*.

For vehicles with the manual liftgate, press twice within 5 seconds to unlock the liftgate.

(Remote Liftgate Release): For vehicles with the power liftgate, press and hold until the liftgate begins to move.

Information Provided by: DEALER E-PROCESS

(Vehicle Locator/Panic Alarm): Press and release one time to initiate vehicle locator. The exterior lamps flash and the horn chirps three times. Press and hold for at least three seconds to sound the panic alarm. The horn sounds and the turn signals flash until is pressed again or the key is placed in the ignition and turned to ON/RUN.

(Remote Vehicle Start): For vehicles with this feature, first press then press and hold to start the engine from outside the vehicle using the RKE transmitter. See *Remote Vehicle Start on page 2-4* for additional information.

The buttons on the keys are disabled when there is a key in the ignition.

Programming Transmitters to the Vehicle

Only RKE transmitters programmed to this vehicle will work. If a transmitter is lost or stolen, a replacement can be purchased and programmed through your dealer. When the replacement transmitter is programmed to this vehicle, all remaining transmitters must also be reprogrammed. Any lost or stolen transmitters will no longer work once the new transmitter is programmed.

Battery Replacement

Replace the battery if the REPLACE BATTERY IN REMOTE KEY message displays in the DIC. See "Replace Battery in Remote Key" under *Key and Lock Messages on page 5-27*.

The battery is not rechargeable. To replace the battery:

1. Push the button on the transmitter to extend the key.
2. Remove the battery cover by prying with a finger.
3. Remove the battery by pushing on the battery and sliding it toward the key blade.
4. Insert the new battery, positive side facing up. Push the battery down until it is held in place. Replace with a CR2032 or equivalent battery.
5. Snap the battery cover back on to the transmitter.

Remote Vehicle Start

The vehicle may have this feature that allows you to start the engine from outside the vehicle.

(Remote Vehicle Start): This button will be on the RKE transmitter if the vehicle has remote start.

The climate control system will use the previous settings during a remote start. The rear defog may come on during remote start based on cold ambient conditions. The rear defog indicator light does not come on during remote start.

Information Provided by: DEALER e-PROCESS

If the vehicle has heated seats, they may come on during a remote start. See *Heated Front Seats on page 3-8* for more information.

Laws in some local communities may restrict the use of remote starters. For example, some laws require a person using remote start to have the vehicle in view. Check local regulations for any requirements.

There are other conditions which can affect the performance of the transmitter. See *Remote Keyless Entry (RKE) System on page 2-2* for additional information.

Starting the Engine Using Remote Start

To start the engine using the remote start feature:

1. Press and release on the RKE transmitter.
2. Immediately press and hold for at least two seconds or until the turn signal lamps flash. The turn signal lamps flashing confirms the request to remote start the vehicle has been received.

 The parking lamps will turn on and remain on as long as the engine is running. The vehicle's doors will be locked.
3. The key must be inserted and turned to ON/RUN before driving.

 The engine will shut off after 10 minutes unless a time extension is done or the key is inserted and turned to ON/RUN.

Extending Engine Run Time

For a 10-minute extension, repeat Steps 1 and 2 while the engine is still running. The remote start can be extended once.

When the remote start is extended, the second 10 minutes will start immediately.

For example, if the engine has been running for 5 minutes, and 10 minutes are added, the engine will run for a total of 15 minutes.

A maximum of two remote starts or remote start attempts are allowed between ignition cycles.

The vehicle's ignition switch must be turned to ON/RUN and then back to LOCK/OFF using the key, before the remote start procedure can be used again.

Shutting the Engine Off After a Remote Start

To shut off the engine:

- Press until the parking lamps turn off.
- Turn on the hazard warning flashers.
- Insert the key and turn it to ON/RUN and then back to LOCK/OFF.

Information Provided by: DEALER E-PROCESS

Conditions in Which Remote Start Will Not Work

The remote vehicle start feature will not operate if:

- The key is in the ignition.
- The hood or doors are not closed.
- The hazard warning flashers are on.
- There is an emission control system malfunction.
- The engine coolant temperature is too high.
- The oil pressure is low.
- Two remote vehicle starts have already been used.
- The vehicle is not in P (Park).

Remote Start Ready

If the vehicle does not have the remote vehicle start feature, it may have the remote start ready feature. This feature allows your dealer to add the manufacturer's remote vehicle start feature. See your dealer to add the manufacturer's remote vehicle start feature to the vehicle.

Door Locks

⚠ WARNING

Unlocked doors can be dangerous.

- Passengers, especially children, can easily open the doors and fall out of a moving vehicle. The chance of being thrown out of the vehicle in a crash is increased if the doors are not locked. So, all passengers should wear safety belts properly and the doors should be locked whenever the vehicle is driven.

(Continued)

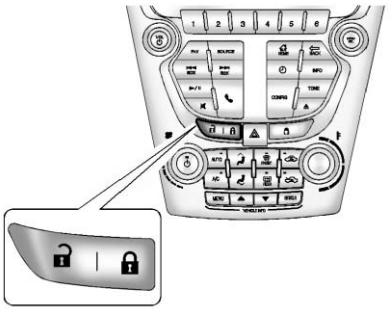
WARNING (CONTINUED)

- Young children who get into unlocked vehicles may be unable to get out. A child can be overcome by extreme heat and can suffer permanent injuries or even death from heat stroke. Always lock the vehicle whenever leaving it.
- Outsiders can easily enter through an unlocked door when slowing or stopping the vehicle. Lock the doors to help prevent this from happening.

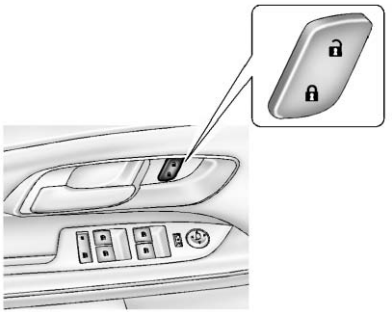
To lock or unlock a door from the outside of the vehicle, use the Remote Keyless Entry (RKE) transmitter. Pull the handle once from the inside to unlock the door, and a second time to open it.

Information Provided by: DEALER e-PROCESS

Power Door Locks



There is a power door lock switch on the instrument panel.



There are power door lock switches on the front door panels.

: Press to lock the doors.

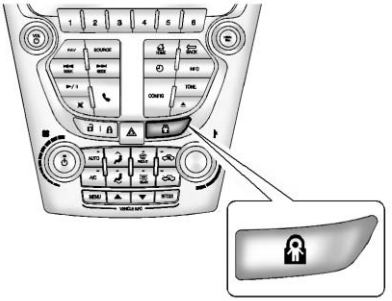
: Press to unlock the doors.

When locking the doors with a power door lock switch and a door or the liftgate is open, the doors will lock five seconds after the last door is closed. Three chimes sound to signal the delayed locking feature is in use.

Pressing the power lock switch twice or on the RKE transmitter twice will override the delayed locking feature and immediately lock all doors.

This feature can be programmed. See “Delayed Door Lock” under *Vehicle Personalization on page 5-31*.

Safety Locks



The rear door safety locks switch is on the instrument panel.

Information Provided by:
DEALER E-PROCESS

Rear door safety locks prevent passengers from opening the rear doors from inside the vehicle.

Press to activate the safety locks. When activated, the indicator light in the switch changes to amber.

Press again to deactivate the safety locks.

If a rear door handle is pulled when the safety lock is deactivated, that door will remain locked and the indicator light may flash. Release the handle, then press the safety lock twice to deactivate the safety locks.

Doors

Liftgate

⚠ WARNING

Exhaust gases can enter the vehicle if it is driven with the liftgate or trunk/hatch open, or with any objects that pass through the seal between the body and the trunk/hatch or liftgate. Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle must be driven with the liftgate or trunk/hatch open:

- Close all of the windows.
- Fully open the air outlets on or under the instrument panel.

(Continued)

WARNING (CONTINUED)

- Adjust the climate control system to a setting that brings in only outside air and set the fan speed to the highest setting. See “Climate Control Systems” in the Index.
- If the vehicle is equipped with a power liftgate, disable the power liftgate function.

See *Engine Exhaust on page 9-25*.

Notice: **To avoid damage to the liftgate or liftgate glass, make sure the area above and behind the liftgate is clear before opening it.**

Information Provided by: DEALER E-PROCESS

Manual Liftgate

To unlock the liftgate, press the power door lock switch or press on the Remote Keyless Entry (RKE) transmitter twice. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

To open the liftgate, press the touch pad under the liftgate handle and lift up.

Use the pull cup to lower and close the liftgate. Do not press the touch pad while closing the liftgate. This may cause the liftgate to be unlatched.

Always close the liftgate before driving.

Power Liftgate

On vehicles with a power liftgate, the vehicle must be in P (Park) to operate. The taillamps flash when the power liftgate moves.

⚠ WARNING

You or others could be injured if caught in the path of the power liftgate. Make sure there is no one in the way of the liftgate as it is opening and closing.

The power liftgate has three modes of operation. Mode selection is controlled by the interior mode switch.



Information Provided by:
DEALER e-PROCESS

Choose the power liftgate mode by turning the dial on the switch until the indicator lines up with the desired position. The vehicle must be in P (Park).

The three modes are:

MAX: The liftgate power opens to the full open height.

3/4: The liftgate power opens to a reduced open height that can be set by the vehicle operator. Use this setting to prevent the liftgate from opening into overhead obstructions such as a garage door or roof mounted cargo during power operation. The liftgate can still be fully opened manually.

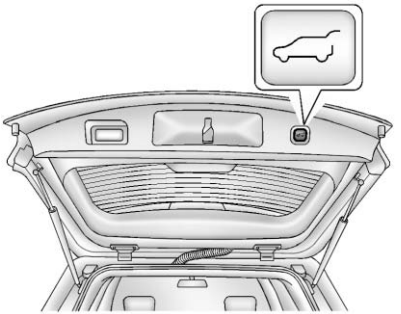
OFF: The liftgate only operates manually in this position.

Manual operation of a liftgate that also has power operation requires more effort than a standard manual liftgate.

The liftgate can be opened manually by pressing the touch pad under the liftgate handle, with the doors unlocked and lifting up.

In either the MAX or the 3/4 mode, the liftgate can be power opened and closed by:

- Pressing and holding on the RKE transmitter until the liftgate starts moving. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.
- Pressing the power liftgate button in the center of the mode switch on the overhead console, with the driver door unlocked.



Press and release on the liftgate adjacent to the latch to close the liftgate.

Pressing any button, or the touch pad switch, while the liftgate is moving stops it. Pressing the button or RKE transmitter again reverses the direction. The touch pad switch will stop the liftgate from moving. There is a minimum distance that the power liftgate must already be open for the system to hold it open. If movement is stopped below that minimum, the liftgate closes.

Information Provided by: DEALER E-PROCESS

Do not force the liftgate open or closed during a power cycle.

The power liftgate may be temporarily disabled under extreme temperatures or low battery conditions. If this occurs, the liftgate can still be operated manually.

If the vehicle is shifted out of P (Park) while the power function is in progress, the liftgate power function will continue to completion. If the vehicle is shifted out of P (Park) and accelerated before the power liftgate latch is closed, the liftgate may reverse to the open position. Cargo could fall out of the vehicle. Always make sure the power liftgate is closed and latched before driving away.

If the liftgate is power opened and the liftgate support struts have lost pressure, the turn signals flash and a chime will sound. The liftgate stays open temporarily, and then slowly closes. See a dealer for service before using the liftgate.

Obstacle Detection Features

If the liftgate encounters an obstacle during a power open or close cycle, a warning chime will sound and the liftgate will automatically reverse direction to the full closed or open position. After removing the obstruction, the power liftgate operation can be used again. If the liftgate encounters multiple obstacles on the same power cycle, the power function will deactivate and a message will display in the Driver Information Center (DIC), see *Object Detection System Messages on page 5-27*. After removing the obstructions, the liftgate will resume normal power operation.

Pinch sensors are located on the side edges of the liftgate. If an object is caught between the liftgate and the vehicle and presses against this sensor, the liftgate will reverse direction and open fully. The liftgate will remain open until it is activated again or closed manually.

Power Liftgate 3/4 Mode

To program the liftgate opening height:

1. Turn the liftgate switch to either the MAX, or the 3/4 mode position and power open the liftgate.
2. Stop the liftgate movement at the desired height by pressing any liftgate switch. Manually adjust the liftgate position if required.
3. Press and hold the button on the liftgate adjacent to the latch until the turn signals flash and a beep sounds to indicate that the new setting is recorded.

When power opened with the 3/4 mode selected, the liftgate stops at the new set position.

If there is no audible and visual feedback when setting the intermediate stop position, the liftgate height is being set below the 3/4 open height minimum (approximately 1.5 m or 5 ft). The liftgate cannot be set below that minimum and the new setting will not be recorded.

Manual Operation of Power Liftgate

To change the liftgate to manual operation, turn the mode switch to the OFF position.

With the power liftgate disabled and all of the doors unlocked, the liftgate can be manually opened and closed. Manual operation of a liftgate that also has power operation requires more effort than a standard manual liftgate.

Information Provided by: DEALER E-PROCESS

To open the liftgate, press the touch pad on the handle on the outside of the liftgate, and lift the gate open. To close the liftgate, use the pull cup to lower the liftgate and close. With the power liftgate disabled, the liftgate electric latch will still power latch once contact is made with the striker. Always close the liftgate before driving.

If on the RKE transmitter is pressed while power operation is disabled, the turn signals flash and the liftgate will not move.

The liftgate has an electric latch. If the battery is disconnected or has low voltage, the liftgate will not open. The liftgate will resume operation when the battery is reconnected and charged.

Vehicle Security

This vehicle has theft-deterrent features; however, they do not make the vehicle impossible to steal.

Vehicle Alarm System

This vehicle has an anti-theft alarm system.

Arming the System

To arm the system, do one of the following:

- Press on the RKE transmitter.
- Lock the vehicle using the key in the driver door.

The alarm automatically arms after about 30 seconds. The security light, located on the instrument panel, flashes.

Press on the RKE transmitter to open the liftgate without setting off the alarm. The system rearms when the liftgate is closed.

Information Provided by: DEALER E-PROCESS

Disarming the System

To disarm the system, do one of the following:

- Press on the RKE transmitter.
- Turn the ignition to ON/RUN.
- Allow the alarm to time out after about 30 seconds and reset itself.

If the system is armed and any door is unlocked without pressing on the RKE transmitter, the alarm sounds.

How to Detect a Tamper Condition

If is pressed and the horn sounds, an attempted break-in has occurred while the system was armed.

If the alarm has been activated, the THEFT ATTEMPTED message will appear on the DIC. See *Key and Lock Messages on page 5-27* for additional information.

Immobilizer

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

Immobilizer Operation

This vehicle has a passive theft-deterrent system.

The system does not have to be manually armed or disarmed.

The vehicle is automatically immobilized when the key is removed from the ignition.

The system is automatically disarmed when the vehicle is started with the correct key. The key uses a transponder that matches an immobilizer control unit in the vehicle and automatically disarms the system. Only an authorized key starts the vehicle. The vehicle may not start if the key is damaged.



The security light in the instrument cluster comes on if there is a problem with arming or disarming the theft-deterrent system.

When trying to start the vehicle, the security light comes on briefly when the ignition is turned on.

If the engine does not start and the security light stays on, there is a problem with the system. Turn the ignition off and try again.

If the engine still does not start, and the key appears to be undamaged or the light continues to stay on, try another ignition key. If the engine does not start with the other key, the vehicle needs service. If the vehicle does start, the first key may be damaged. See your dealer who can service the theft-deterrent system and have a new key made.

Do not leave the key or device that disarms or deactivates the theft-deterrent system in the vehicle.

Information Provided by: DEALER E-PROCESS

Exterior Mirrors

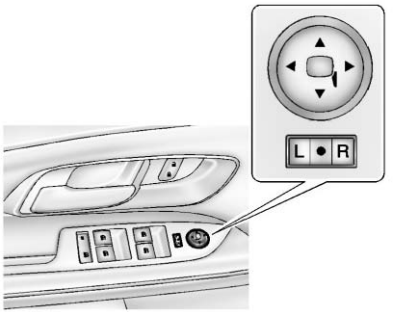
Convex Mirrors

⚠ WARNING

A convex mirror can make things, like other vehicles, look farther away than they really are. If you cut too sharply into the right lane, you could hit a vehicle on the right. Check the inside mirror or glance over your shoulder before changing lanes.

The passenger side mirror is convex shaped. A convex mirror's surface is curved so more can be seen from the driver seat.

Power Mirrors



To adjust the mirrors:

1. Move the selector switch to L (Left) or R (Right) to choose the driver or passenger mirror.
2. Press the arrows on the control pad to move each mirror in the desired direction.
3. Return the selector switch to the middle position.

Heated Mirrors

For vehicles with heated mirrors:

The heated outside rearview mirrors turn on when the rear window defogger is on and help to clear fog or frost from the surface of the mirrors.

(Rear Window Defogger): This button is on the climate control panel.

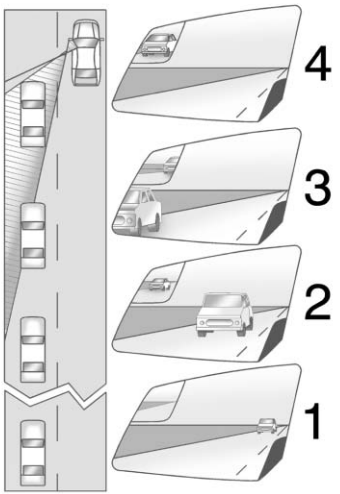
See “Rear Window Defogger” under *Automatic Climate Control System on page 8-3* for more information.

Blind Spot Mirrors

The blind spot mirror is a small convex mirror built into the upper and outer corner of both outside mirrors. It can show objects that may be in the vehicle's blind zone.

Information Provided by: DEALER E-PROCESS

Driving with the Blind Spot Mirror



Actual Mirror View

1. When the approaching vehicle is a long distance away, the image in the main mirror is small and near the inboard edge of the mirror.
2. As the vehicle gets closer, the image in the main mirror gets larger and moves outboard.
3. As the vehicle enters the blind zone, the image transitions from the main mirror to the blind spot mirror.
4. When the vehicle is in the blind zone, the image only appears in the blind spot mirror.

Using the Outside Mirror with the Blind Spot Mirror

1. Set the main mirror so that the side of the vehicle can just be seen and the blind spot mirror has an unobstructed view.
2. When checking for traffic or before changing a lane, look at the main driver/passenger side mirror to observe traffic in the adjacent lane, behind your vehicle. Check the blind spot mirror for a vehicle in the blind zone. Then, glance over your shoulder to double check before moving slowly into the adjacent lane.

Park Tilt Mirrors

If the vehicle is equipped with memory mirrors, there is an option to have the mirrors tilt down, when in R (Reverse), to more easily see the ground near the vehicle.

When the vehicle is shifted to R (Reverse), both the driver and passenger mirrors will tilt downward. They will return to their previous position when the vehicle is shifted out of R (Reverse), the ignition is turned to OFF, or the vehicle is left in R (Reverse) for an extended period of time.

This feature can be turned on or off. See *Vehicle Personalization on page 5-31*.

Powered by CarManuals.com

Interior Mirrors

Manual Rearview Mirror

Hold the inside rearview mirror in the center and move it for a clearer view behind the vehicle. Adjust the mirror to avoid glare from the headlamps behind you. Push the tab forward for daytime use and pull it for nighttime use.

Vehicles with OnStar® have three control buttons located at the bottom of the mirror. See your dealer for more information on the system and how to subscribe to OnStar. See *OnStar Overview on page 14-1*.

Automatic Dimming Rearview Mirror

The vehicle may have an automatic dimming inside rearview mirror. Automatic dimming reduces the glare from the headlamps of the vehicle behind you. The dimming feature comes on and the indicator light comes on each time the vehicle is started.

⏻ **(On/Off):** Press to turn automatic dimming on or off.

Vehicles with OnStar® have three additional control buttons located at the bottom of the mirror. See your dealer for more information on the system and how to subscribe to OnStar. See *OnStar Overview on page 14-1*.

Cleaning the Mirror

Do not spray glass cleaner directly on the mirror. Use a soft towel dampened with water.

Windows

⚠ WARNING

Never leave a child, a helpless adult, or a pet alone in a vehicle, especially with the windows closed in warm or hot weather. They can be overcome by the extreme heat and suffer permanent injuries or even death from heat stroke.



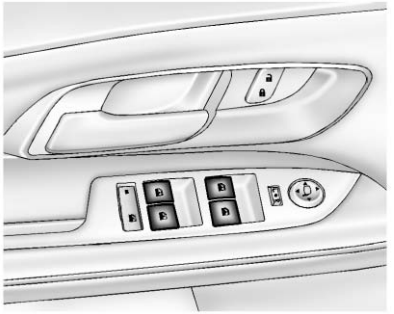
Information Provided by: DEALER E-PROCESS

The vehicle aerodynamics are designed to improve fuel economy performance. This may result in a pulsing sound when either rear window is down and the front windows are up. To reduce the sound, open either a front window or the sunroof (if equipped).

Power Windows

⚠ WARNING

Children could be seriously injured or killed if caught in the path of a closing window. Never leave keys in a vehicle with children. When there are children in the rear seat, use the window lockout button to prevent operation of the windows. See *Keys on page 2-1*.



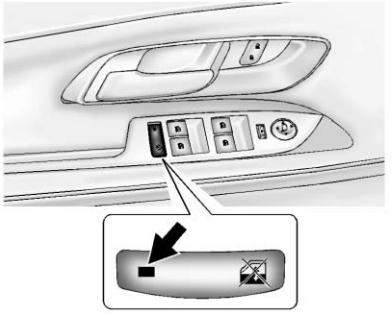
The power windows work when the ignition is in ON/RUN or ACC/ ACCESSORY, or in Retained Accessory Power (RAP). See *Retained Accessory Power (RAP) on page 9-22*.

Press the front of the switch to open the window. Pull the switch up to close it.

Express Down Windows

Windows that have the express-down feature allow the windows to be lowered without holding the switch. Press the window switch fully and release it to activate the express-down feature. The express mode can be canceled at any time by briefly pressing, or pulling the switch.

Window Lockout



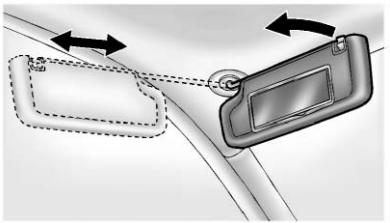
(Window Lockout): This feature prevents the rear passenger windows from operating, except from the driver position.

Information Provided by: DEALER E-PROCESS

Press to activate the rear window lockout switch. The indicator light comes on when activated.

Press again to deactivate the lockout switch.

Sun Visors

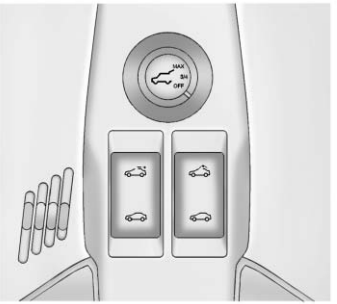


Pull the sun visor down to block glare. Detach the sun visor from the center mount to pivot to the side window, or to extend along the rod, if available.

Roof

Sunroof

On vehicles with a sunroof, the switches used to operate it are on the headliner above the rearview mirror. The ignition must be in ON/RUN or ACC/ACCESSORY, or in Retained Accessory Power (RAP) to operate the sunroof. See *Ignition Positions on page 9-19* and *Retained Accessory Power (RAP) on page 9-22*.



- Press and hold the front or rear of the driver side switch to open or close the sunroof. The sunshade automatically opens with the sunroof, but must be closed manually.
- Press and hold the rear of the passenger side switch to vent the sunroof. Press and hold the front of the switch to close.

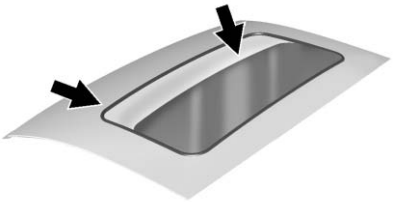
Information Provided by: DEALER E-PROCESS

Express-open/Express-close

Press and release the front or rear of the driver side switch to express-open or express-close the sunroof.

Anti-Pinch Feature

If an object is in the path of the sunroof when it is closing, the anti-pinch feature detects the object and stops the sunroof from closing at the point of the obstruction. The sunroof then returns to the full-open position.



Dirt and debris may collect on the sunroof seal or in the track. This could cause an issue with sunroof operation, noise, or plugging the water drainage system. Periodically open the sunroof and remove any obstacles or loose debris. Wipe the sunroof seal and roof sealing area using a clean cloth, mild soap, and water. Do not remove grease from the sunroof.

Information Provided by:
DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Seats and Restraints

Head Restraints
Head Restraints 3-2

Front Seats
Seat Adjustment 3-3
Power Seat Adjustment 3-4
Lumbar Adjustment 3-5
Reclining Seatbacks 3-5
Memory Seats 3-7
Heated Front Seats 3-8

Rear Seats
Rear Seats 3-9

Safety Belts
Safety Belts 3-11
How to Wear Safety Belts Properly 3-12
Lap-Shoulder Belt 3-13
Safety Belt Use During Pregnancy 3-17
Safety Belt Extender 3-17
Safety System Check 3-17
Safety Belt Care 3-18
Replacing Safety Belt System Parts after a Crash 3-18

Airbag System
Airbag System 3-19
Where Are the Airbags? 3-21
When Should an Airbag Inflate? 3-22
What Makes an Airbag Inflate? 3-24
How Does an Airbag Restrain? 3-24
What Will You See after an Airbag Inflates? 3-24
Passenger Sensing System 3-26
Servicing the Airbag-Equipped Vehicle 3-30
Adding Equipment to the Airbag-Equipped Vehicle . . . 3-30
Airbag System Check 3-32
Replacing Airbag System Parts after a Crash 3-32

Child Restraints
Older Children 3-33
Infants and Young Children 3-35
Child Restraint Systems 3-37
Where to Put the Restraint . . . 3-39
Lower Anchors and Tethers for Children (LATCH System) 3-40
Replacing LATCH System Parts After a Crash 3-45
Securing Child Restraints (Rear Seat) 3-45
Securing Child Restraints (Front Passenger Seat) 3-48

Information Provided by: DEALER E-PROCESS

Head Restraints

Front Seats

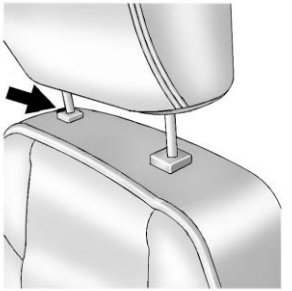
The vehicle's front seats have head restraints in the outboard seating positions.

⚠ WARNING

With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.



Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.



The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

Information Provided by: DEALER E-PROCESS

To lower the head restraint, press the button, located on the top of the seatback, and push the head restraint down. Try to move the head restraint after the button is released to make sure that it is locked in place.

The front seat outboard head restraints are not designed to be removed.

Rear Seats

The vehicle's rear seat has head restraints in the outboard seating positions that cannot be adjusted.

Rear outboard head restraints are not designed to be removed.

Front Seats

Seat Adjustment

⚠ WARNING

You can lose control of the vehicle if you try to adjust a driver seat while the vehicle is moving. Adjust the driver seat only when the vehicle is not moving.



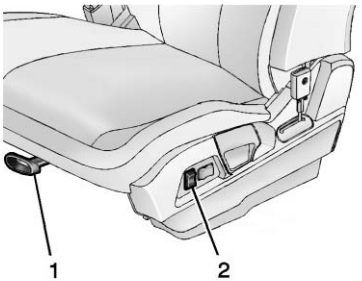
To adjust a manual seat:

1. Pull the handle at the front of the seat cushion.
2. Move the seat forward or rearward to adjust the seat position.
3. Release the handle to stop the seat from moving.
4. Try to move the seat back and forth to be sure it is locked in place.

Information Provided by: DEALER E-PROCESS

Power Seat Adjustment

Four-Way Power Seat



1. Seat Position Handle
2. Height Adjustment Control

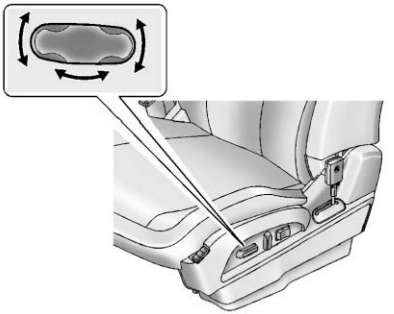
To adjust a power seat, if equipped:

- Move the seat forward or rearward using the handle under the front of the seat cushion (1). See *Seat Adjustment on page 3-3*.
- Raise or lower the entire seat by moving the control (2) up or down.

To adjust the seatback, see *Reclining Seatbacks on page 3-5*.

To adjust the lumbar support, see *Lumbar Adjustment on page 3-5*.

Eight-Way Power Seats



To adjust a power seat, if equipped:

- Move the seat forward or rearward by sliding the control forward or rearward.
- Raise or lower the front or rear part of the seat cushion by moving the front or rear of the control up or down.
- Raise or lower the entire seat by moving the entire control up or down.

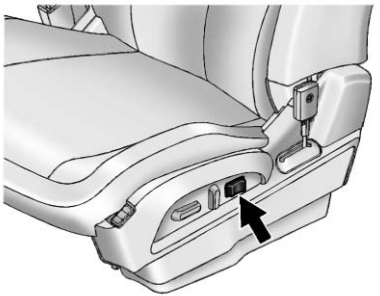
Information Provided by: DEALER E-PROCESS

To adjust the seatback, see *Reclining Seatbacks on page 3-5*.

To adjust the lumbar support, see *Lumbar Adjustment on page 3-5*.

Lumbar Adjustment

Power Lumbar



Eight-Way Power Seat Shown, Four-Way Similar

If available, press and hold the front or rear of the switch to increase or decrease lumbar support. Release the switch when the seatback reaches the desired level of lumbar support.

Reclining Seatbacks

⚠ WARNING

Sitting in a reclined position when the vehicle is in motion can be dangerous. Even when buckled up, the safety belts cannot do their job.

The shoulder belt will not be against your body. Instead, it will be in front of you. In a crash, you could go into it, receiving neck or other injuries.

The lap belt could go up over your abdomen. The belt forces would be there, not at your pelvic bones. This could cause serious internal injuries.

(Continued)

WARNING (CONTINUED)

For proper protection when the vehicle is in motion, have the seatback upright. Then sit well back in the seat and wear the safety belt properly.



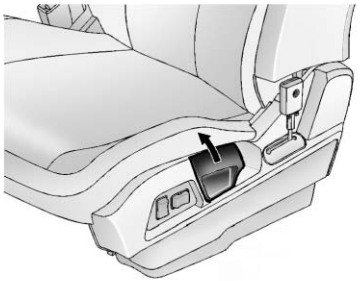
Do not have a seatback reclined if the vehicle is moving.

Information Provided by: DEALER E-PROCESS

Manual Reclining Seatbacks

⚠ WARNING

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.



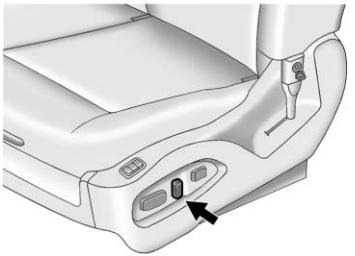
To recline a manual seatback:

1. Lift the lever.
2. Move the seatback to the desired position, and then release the lever to lock the seatback in place.
3. Push and pull on the seatback to make sure it is locked.

To return the seatback to the upright position:

1. Lift the lever fully without applying pressure to the seatback, and the seatback will return to the upright position.
2. Push and pull on the seatback to make sure it is locked.

Power Reclining Seatbacks

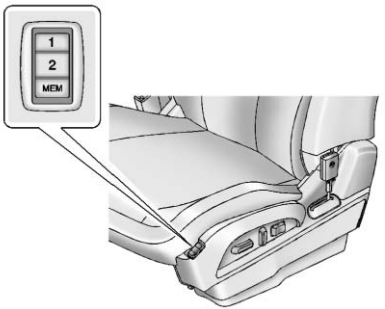


To adjust a power seatback, if available:

- Tilt the top of the control rearward to recline.
- Tilt the top of the control forward to raise.

Information Provided by: DEALER E-PROCESS

Memory Seats



If available, the “1” and “2” buttons on the outboard side of the driver seat are used to manually save and recall the driver seat and outside mirror positions. These manually stored positions are referred to as Button Memory positions.

The vehicle will also automatically save driver seat and outside mirror positions to the current driver Remote Keyless Entry (RKE) transmitter when the ignition is turned off. These automatically stored positions are referred to as RKE Memory positions. See *Remote Keyless Entry (RKE) System Operation on page 2-3*.

Storing Button Memory Positions

To save positions into Button Memory:

1. Adjust the driver seat, seatback recliner, and both outside mirrors to the desired driving positions.
2. Press and hold MEM (Memory) and “1” at the same time until a beep sounds.
3. Repeat Steps 1 and 2 for a second driver using “2.”

Recalling Button Memory Positions

To recall the Button Memory positions, press and hold “1” or “2.” The driver seat and outside mirrors move to the positions stored to those buttons when pressed. Releasing “1” or “2” before the stored positions are reached stops the recall.

Information Provided by: DEALER E-PROCESS

If something has blocked the driver seat while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by pressing the appropriate memory button. If the memory position is still not recalling, see your dealer for service.

Recalling RKE Memory Positions (Memory Remote Recall)

The Memory Remote Recall feature can recall the driver seat and outside mirrors to previously stored RKE Memory positions when entering the vehicle.

Every time the ignition is turned off, the positions of the driver seat and outside mirrors are automatically stored to the RKE transmitter that was used to start the vehicle. These positions are called RKE Memory positions and may be different than the previously mentioned Button

Memory positions saved to the "1" or "2" buttons. To recall RKE Memory positions, unlock the driver door with the RKE transmitter and open the driver door. If the driver door is already open, pressing the RKE transmitter button will also activate the RKE Memory recall. The driver seat and outside mirrors will move to the previously saved RKE Memory positions.

This feature is turned on or off using the vehicle personalization menu. See *Vehicle Personalization on page 5-31*.

To stop recall movement, press any of the memory, power mirror, or power seat controls.

If something has blocked the driver seat while recalling a memory position, the recall may stop. Remove the obstruction; then press and hold the appropriate manual control for the memory item that is not recalling for two seconds. Try recalling the memory position again by opening the driver door and pressing the RKE button. If the memory position is still not recalling, see your dealer for service.

Easy Exit Driver Seat

This feature moves the seat rearward allowing the driver more room to exit the vehicle.

To activate, turn the ignition off and open the driver door. If the driver door is already open, turning the ignition off will activate the recall.

This feature can be turned on or off using the vehicle personalization menu. See *Vehicle Personalization on page 5-31*.

To stop recall movement, press one of the memory or power seat controls.

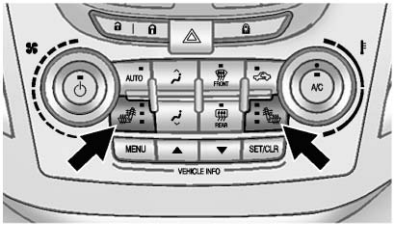
If something has blocked the driver seat while recalling the exit position, the recall may stop. Remove the obstruction; then press and hold the power seat control rearward for two seconds. Try recalling the exit position again. If the exit position is still not recalling, see your dealer for service.

Information Provided by: DEALER E-PROCESS

Heated Front Seats

⚠ WARNING

If you cannot feel temperature change or pain to the skin, the seat heater may cause burns. To reduce the risk of burns, people with such a condition should use care when using the seat heater, especially for long periods of time. Do not place anything on the seat that insulates against heat, such as a blanket, cushion, cover, or similar item. This may cause the seat heater to overheat. An overheated seat heater may cause a burn or may damage the seat.



Uplevel Climate Control System Shown, Base Similar

If available, the buttons are near the climate controls. To operate, the ignition must be in ON/RUN.

Press or to heat the driver or passenger seat cushion and seatback.

Press the button once for the highest setting. With each press of the button, the heated seat will change to the next lower setting, and then the off setting. Three lights indicate the highest setting, and one light indicates the lowest.

The passenger seat may take longer to heat up.

Remote Start Heated Seats

When it is cold outside, the heated seats can be programmed to turn on automatically during a remote vehicle start. The heated seats will be canceled when the ignition is turned on. Press the heated seat button to use the heated seats after the vehicle is started.

The heated seat button lights will not turn on during a remote start.

The temperature of an unoccupied seat may be reduced.

To program the heated seat feature to enabled, see *Vehicle Personalization on page 5-31*.

Rear Seats

Split Folding Seatbacks

With this feature, either side of the rear seatback can be folded down for more cargo space.

⚠ WARNING

If either seatback is not locked, it could move forward in a sudden stop or crash. That could cause injury to the person sitting there. Always push and pull on the seatbacks to be sure they are locked.

⚠ WARNING

A safety belt that is improperly routed, not properly attached, or twisted will not provide the protection needed in a crash. The person wearing the belt could be

(Continued)

Information Provided by: DEALER E-PROCESS

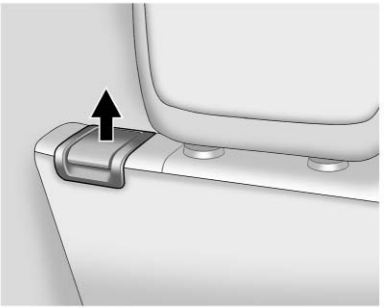
WARNING (CONTINUED)

seriously injured. After raising the rear seatback, always check to be sure that the safety belts are properly routed and attached, and are not twisted.

To fold the seatback down:

Notice: **Folding a rear seat with the safety belts still fastened may cause damage to the seat or the safety belts. Always unbuckle the safety belts and return them to their normal stowed position before folding a rear seat.**

1. Unbuckle the rear safety belts and place the front seatbacks in the upright position. See *Reclining Seatbacks on page 3-5*.



2. Lift the lever on the top of the seatback.
3. Fold the seatback forward.

 The filler panel behind the seat will fold with the seatback to span the gap between the rear of the seat and the cargo area, creating a flat load floor. Do not lift the filler panel.

Keep the seatback in the upright, locked position when not in use.

To recline the seatback:

1. Lift and hold the lever on top of the seatback.
2. Tilt the seatback rearward, then release the lever when the seatback is in the desired position.

To slide the entire seat forward or rearward:

1. Lift and hold the release bar under the front of the seat cushion to unlock the seat.
2. Slide the seat to the desired position.
3. Release the bar.
4. Try to move the seat back and forth to ensure the seat is locked into place.

Information Provided by: DEALER E-PROCESS

Safety Belts

This section of the manual describes how to use safety belts properly. It also describes some things not to do with safety belts.

⚠ WARNING

Do not let anyone ride where a safety belt cannot be worn properly. In a crash, if you or your passenger(s) are not wearing safety belts, injuries can be much worse than if you are wearing safety belts. You can be seriously injured or killed by hitting things inside the vehicle harder or by being ejected from the vehicle. In addition, anyone who is not buckled up can strike other passengers in the vehicle.

(Continued)

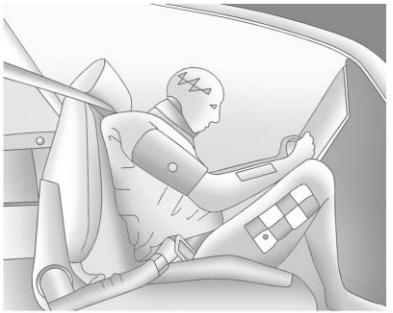
WARNING (CONTINUED)

It is extremely dangerous to ride in a cargo area, inside or outside of a vehicle. In a collision, passengers riding in these areas are more likely to be seriously injured or killed. Do not allow passengers to ride in any area of the vehicle that is not equipped with seats and safety belts.

Always wear a safety belt, and check that all passenger(s) are restrained properly too.

This vehicle has indicators as a reminder to buckle the safety belts. See *Safety Belt Reminders on page 5-10*.

Why Safety Belts Work



When riding in a vehicle, you travel as fast as the vehicle does. If the vehicle stops suddenly, you keep going until something stops you. It could be the windshield, the instrument panel, or the safety belts!

When you wear a safety belt, you and the vehicle slow down together. There is more time to stop because you stop over a longer distance and, when worn properly, your strongest bones take the forces from the

Information Provided by: DEALER E-PROCESS

safety belts. That is why wearing safety belts makes such good sense.

Questions and Answers About Safety Belts

Q: Will I be trapped in the vehicle after a crash if I am wearing a safety belt?

A: You *could* be — whether you are wearing a safety belt or not. Your chance of being conscious during and after a crash, so you *can* unbuckle and get out, is *much* greater if you are belted.

Q: If my vehicle has airbags, why should I have to wear safety belts?

A: Airbags are supplemental systems only; so they work *with* safety belts — not instead of them. Whether or not an airbag is provided, all occupants still have to buckle up to get the most protection.

Also, in nearly all states and in all Canadian provinces, the law requires wearing safety belts.

How to Wear Safety Belts Properly

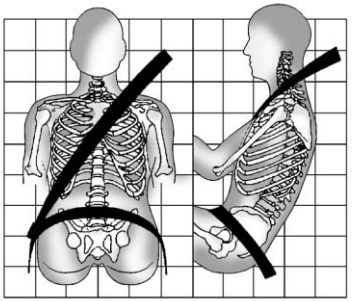
This section is only for people of adult size.

There are special things to know about safety belts and children. And there are different rules for smaller children and infants. If a child will be riding in the vehicle, see *Older Children on page 3-33* or *Infants and Young Children on page 3-35*. Follow those rules for everyone's protection.

It is very important for all occupants to buckle up. Statistics show that unbelted people are hurt more often in crashes than those who are wearing safety belts.

There are important things to know about wearing a safety belt properly.

Information Provided by: DEALER E-PROCESS



- Sit up straight and always keep your feet on the floor in front of you.
- Always use the correct buckle for your seating position.
- Wear the lap part of the belt low and snug on the hips, just touching the thighs. In a crash, this applies force to the strong pelvic bones and you would be less likely to slide under the lap belt. If you slid under it, the belt would apply force on your abdomen. This could cause serious or even fatal injuries.

- Wear the shoulder belt over the shoulder and across the chest. These parts of the body are best able to take belt restraining forces. The shoulder belt locks if there is a sudden stop or crash.

⚠ WARNING

You can be seriously injured, or even killed, by not wearing your safety belt properly.

- Never allow the lap or shoulder belt to become loose or twisted.
- Never wear the shoulder belt under both arms or behind your back.
- Never route the lap or shoulder belt over an armrest.

Lap-Shoulder Belt

All seating positions in the vehicle have a lap-shoulder belt.

The following instructions explain how to wear a lap-shoulder belt properly.

1. Adjust the seat, if the seat is adjustable, so you can sit up straight. To see how, see “Seats” in the Index.
2. Pick up the latch plate and pull the belt across you. Do not let it get twisted.

 The lap-shoulder belt may lock if you pull the belt across you very quickly. If this happens, let the belt go back slightly to unlock it. Then pull the belt across you more slowly.

 If the shoulder portion of a passenger belt is pulled out all the way, the child restraint locking feature may be engaged. If this happens, let the belt go back all the way and start again.



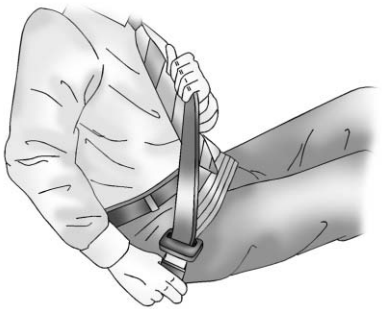
3. Push the latch plate into the buckle until it clicks.

 Pull up on the latch plate to make sure it is secure. If the belt is not long enough, see *Safety Belt Extender on page 3-17*.

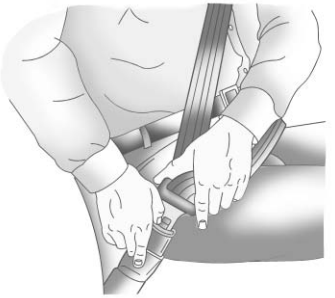
 Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.

Information Provided by: DEALER E-PROCESS

4. If equipped with a shoulder belt height adjuster, move it to the height that is right for you. See “Shoulder Belt Height Adjuster” later in this section for instructions on use and important safety information.



5. To make the lap part tight, pull up on the shoulder belt.



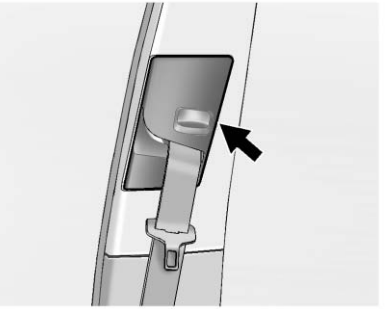
To unlatch the belt, push the button on the buckle.

Before a door is closed, be sure the safety belt is out of the way. If a door is slammed against a safety belt, damage can occur to both the safety belt and the vehicle.

Shoulder Belt Height Adjuster

The vehicle has a shoulder belt height adjuster for the driver and right front passenger seating positions.

Adjust the height so the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck. Improper shoulder belt height adjustment could reduce the effectiveness of the safety belt in a crash. See *How to Wear Safety Belts Properly on page 3-12*.



Move the height adjuster up to the desired position by pushing up on the height adjuster.

Information Provided by: DEALER E-PROCESS

After the height adjuster is set to the desired position, try to move it down without pressing the release button to make sure it has locked into position. Press the release button to lower the height adjuster.

Safety Belt Pretensioners

This vehicle has safety belt pretensioners for front outboard occupants. Although the safety belt pretensioners cannot be seen, they are part of the safety belt assembly. They can help tighten the safety belts during the early stages of a moderate to severe frontal and near frontal crash if the threshold conditions for pretensioner activation are met. And, if the vehicle has side impact airbags, safety belt pretensioners can help tighten the safety belts in a side crash or a rollover event.

Pretensioners work only once. If the pretensioners are activated in a crash, the pretensioners and possibly other parts of the safety belt system will need to be replaced. See *Replacing Safety Belt System Parts after a Crash on page 3-18*.

Rear Safety Belt Comfort Guides

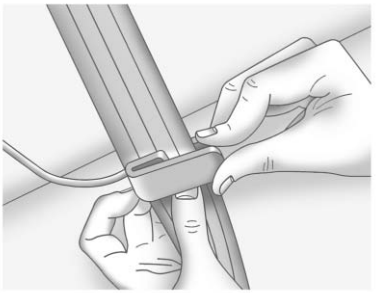
This vehicle may have rear shoulder belt comfort guides. If not, they are available through your dealer. The guides may provide added safety belt comfort for older children who have outgrown booster seats and for some adults. When installed and properly adjusted, the comfort guide positions the belt away from the neck and head.

There is one guide for each outside passenger position in the rear seat. Here is how to install a comfort guide to the safety belt:

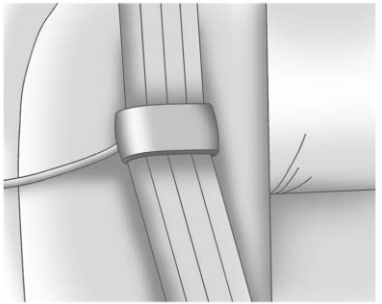


1. Remove the guide from its storage pocket on the side of the seatback.

Information Provided by: DEALER E-PROCESS



2. Place the guide over the belt, and insert the two edges of the belt into the slots of the guide.



3. The belt should not be twisted and it should lie flat. The elastic cord must be under the belt and the guide on top.

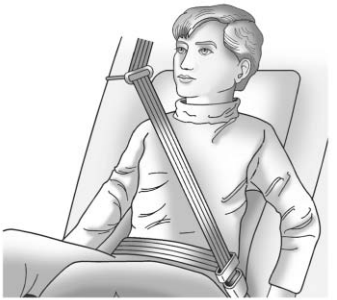
⚠ WARNING

A safety belt that is not properly worn may not provide the protection needed in a crash. The person wearing the belt could be seriously injured. The shoulder belt should go over the shoulder

(Continued)

WARNING (CONTINUED)

and across the chest. These parts of the body are best able to take belt restraining forces.



4. Buckle, position, and release the safety belt as described previously in this section. Make sure the shoulder portion of the belt is on the shoulder and not falling off of it. The belt should be close to, but not contacting, the neck.

Information Provided by: DEALER E-PROCESS

To remove and store the comfort guide, squeeze the belt edges together so that the safety belt can be removed from the guide. Slide the guide back into its storage pocket located on the side of the seatback.

Safety Belt Use During Pregnancy

Safety belts work for everyone, including pregnant women. Like all occupants, they are more likely to be seriously injured if they do not wear safety belts.



A pregnant woman should wear a lap-shoulder belt, and the lap portion should be worn as low as possible, below the rounding, throughout the pregnancy.

The best way to protect the fetus is to protect the mother. When a safety belt is worn properly, it is more likely that the fetus will not be hurt in a crash. For pregnant women, as for anyone, the key to making safety belts effective is wearing them properly.

Information Provided by: DEALER E-PROCESS

Safety Belt Extender

If the vehicle's safety belt will fasten around you, you should use it.

But if a safety belt is not long enough, your dealer will order you an extender. When you go in to order it, take the heaviest coat you will wear, so the extender will be long enough for you. To help avoid personal injury, do not let someone else use it, and use it only for the seat it is made to fit. The extender has been designed for adults. Never use it for securing child seats. To wear it, attach it to the regular safety belt. See the instruction sheet that comes with the extender.

Safety System Check

Now and then, check that the safety belt reminder light, safety belts, buckles, latch plates, retractors, and anchorages are all working properly. Look for any other loose or damaged safety belt system parts that might keep a safety belt system from doing its job. See your dealer

to have it repaired. Torn or frayed safety belts may not protect you in a crash. They can rip apart under impact forces. If a belt is torn or frayed, get a new one right away.

Make sure the safety belt reminder light is working. See *Safety Belt Reminders on page 5-10*.

Keep safety belts clean and dry. See *Safety Belt Care on page 3-18*.

Safety Belt Care

Keep belts clean and dry.

⚠ WARNING

Do not bleach or dye safety belts. It may severely weaken them. In a crash, they might not be able to provide adequate protection. Clean safety belts only with mild soap and lukewarm water.

Replacing Safety Belt System Parts after a Crash

⚠ WARNING

A crash can damage the safety belt system in the vehicle. A damaged safety belt system may not properly protect the person using it, resulting in serious injury or even death in a crash. To help make sure the safety belt systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

After a minor crash, replacement of safety belts may not be necessary. But the safety belt assemblies that were used during any crash may have been stressed or damaged.

See your dealer to have the safety belt assemblies inspected or replaced.

New parts and repairs may be necessary even if the safety belt system was not being used at the time of the crash.

Have the safety belt pretensioners checked if the vehicle has been in a crash, or if the airbag readiness light stays on after you start the vehicle or while you are driving. See *Airbag Readiness Light on page 5-10*.

Information Provided by: DEALER E-PROCESS

Airbag System

The vehicle has the following airbags:

- A frontal airbag for the driver.
- A frontal airbag for the right front passenger.
- A seat-mounted side impact airbag for the driver.
- A seat-mounted side impact airbag for the right front passenger.
- A roof-rail airbag for the driver and the passenger seated directly behind the driver.
- A roof-rail airbag for the right front passenger and the passenger seated directly behind the right front passenger.

All of the airbags in the vehicle will have the word AIRBAG embossed in the trim or on an attached label near the deployment opening.

For frontal airbags, the word AIRBAG will appear on the middle part of the steering wheel for the driver and on the instrument panel for the right front passenger.

With seat-mounted side impact airbags, the word AIRBAG will appear on the side of the seatback closest to the door.

With roof-rail airbags, the word AIRBAG will appear along the trim.

Airbags are designed to supplement the protection provided by safety belts. Even though today's airbags are also designed to help reduce the risk of injury from the force of an inflating bag, all airbags must inflate very quickly to do their job.

Here are the most important things to know about the airbag system:

⚠ WARNING

You can be severely injured or killed in a crash if you are not wearing your safety belt, even with airbags. Airbags are designed to work with safety belts, not replace them. Also, airbags are not designed to inflate in every crash. In some crashes safety belts are the only restraint. See *When Should an Airbag Inflate? on page 3-22*.

Wearing your safety belt during a crash helps reduce the chance of hitting things inside the vehicle or being ejected from it. Airbags are “supplemental restraints” to the safety belts. Everyone in the vehicle should wear a safety belt properly, whether or not there is an airbag for that person.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Because airbags inflate with great force and faster than the blink of an eye, anyone who is up against, or very close to any airbag when it inflates can be seriously injured or killed. Do not sit unnecessarily close to any airbag, as you would be if sitting on the edge of the seat or leaning forward. Safety belts help keep you in position before and during a crash. Always wear a safety belt, even with airbags. The driver should sit as far back as possible while still maintaining control of the vehicle.

Occupants should not lean on or sleep against the door or side windows in seating positions with seat-mounted side impact airbags and/or roof-rail airbags.

⚠ WARNING

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Young children and infants need the protection that a child restraint system can provide. Always secure children properly in the vehicle. To read how, see *Older Children on page 3-33* or *Infants and Young Children on page 3-35*.



There is an airbag readiness light on the instrument panel cluster, which shows the airbag symbol.

The system checks the airbag electrical system for malfunctions. The light tells you if there is an electrical problem. See *Airbag Readiness Light on page 5-10* for more information.

Information Provided by: DEALER E-PROCESS

Where Are the Airbags?



The driver frontal airbag is in the middle of the steering wheel.



The right front passenger frontal airbag is in the instrument panel on the passenger side.



Driver Side Shown, Passenger Side Similar

The seat-mounted side impact airbags for the driver and right front passenger are in the side of the seatbacks closest to the door.

Information Provided by:
DEALER E-PROCESS



Driver Side Shown, Passenger Side Similar

The roof-rail airbags for the driver, right front passenger, and second row outboard passengers are in the ceiling above the side windows.

⚠ WARNING

If something is between an occupant and an airbag, the airbag might not inflate properly or it might force the object into that person causing severe injury

(Continued)

WARNING (CONTINUED)

or even death. The path of an inflating airbag must be kept clear. Do not put anything between an occupant and an airbag, and do not attach or put anything on the steering wheel hub or on or near any other airbag covering.

Do not use seat accessories that block the inflation path of a seat-mounted side impact airbag.

Never secure anything to the roof of a vehicle with roof-rail airbags by routing a rope or tie-down through any door or window opening. If you do, the path of an inflating roof-rail airbag will be blocked.

When Should an Airbag Inflate?

Frontal airbags are designed to inflate in moderate to severe frontal or near-frontal crashes to help reduce the potential for severe injuries mainly to the driver's or right front passenger's head and chest. However, they are only designed to inflate if the impact exceeds a predetermined deployment threshold. Deployment thresholds are used to predict how severe a crash is likely to be in time for the airbags to inflate and help restrain the occupants.

Whether the frontal airbags will or should deploy is not based on how fast your vehicle is traveling. It depends largely on what you hit, the direction of the impact, and how quickly your vehicle slows down.

Information Provided by: DEALER E-PROCESS

Frontal airbags may inflate at different crash speeds. For example:

- If the vehicle hits a stationary object, the airbags could inflate at a different crash speed than if the vehicle hits a moving object.
- If the vehicle hits an object that deforms, the airbags could inflate at a different crash speed than if the vehicle hits an object that does not deform.
- If the vehicle hits a narrow object (like a pole), the airbags could inflate at a different crash speed than if the vehicle hits a wide object (like a wall).
- If the vehicle goes into an object at an angle, the airbags could inflate at a different crash speed than if the vehicle goes straight into the object.

Thresholds can also vary with specific vehicle design.

Frontal airbags are not intended to inflate during vehicle rollovers, rear impacts, or in many side impacts.

In addition, the vehicle has dual-stage frontal airbags. Dual-stage airbags adjust the restraint according to crash severity. The vehicle has electronic frontal sensors, which help the sensing system distinguish between a moderate frontal impact and a more severe frontal impact. For moderate frontal impacts, dual-stage airbags inflate at a level less than full deployment. For more severe frontal impacts, full deployment occurs.

The vehicle has seat-mounted side impact and roof-rail airbags. See *Airbag System on page 3-19*. Seat-mounted side impact and roof-rail airbags are intended to inflate in moderate to severe side crashes. In addition, these roof-rail airbags are intended to inflate during a rollover or in a severe frontal impact. Seat-mounted side impact and roof-rail airbags will inflate if the crash severity is above the system's designed threshold level. The threshold level can vary with specific vehicle design.

Seat-mounted side impact airbags are not intended to inflate in frontal impacts, near-frontal impacts, rollovers, or rear impacts. Roof-rail airbags are not intended to inflate in rear impacts. A seat-mounted side impact airbag is intended to deploy on the side of the vehicle that is struck. Both roof-rail airbags will deploy when either side of the vehicle is struck, or if the sensing system predicts that the vehicle is about to roll over, or in a severe frontal impact.

In any particular crash, no one can say whether an airbag should have inflated simply because of the damage to a vehicle or because of what the repair costs were. For frontal airbags, inflation is determined by what the vehicle hits, the angle of the impact, and how quickly the vehicle slows down. For seat-mounted side impact and roof-rail airbags, deployment is

Powered by Automobile Catalog

determined by the location and severity of the side impact. In a rollover event, roof-rail airbag deployment is determined by the direction of the roll.

What Makes an Airbag Inflate?

In a deployment event, the sensing system sends an electrical signal triggering a release of gas from the inflator. Gas from the inflator fills the airbag causing the bag to break out of the cover. The inflator, the airbag, and related hardware are all part of the airbag module.

For airbag location, see *Where Are the Airbags? on page 3-21*.

How Does an Airbag Restrain?

In moderate to severe frontal or near frontal collisions, even belted occupants can contact the steering wheel or the instrument panel. In moderate to severe side collisions, even belted occupants can contact the inside of the vehicle.

Airbags supplement the protection provided by safety belts. Frontal airbags distribute the force of the impact more evenly over the occupant's upper body, stopping the occupant more gradually. Seat-mounted side impact and roof-rail airbags distribute the force of the impact more evenly over the occupant's upper body.

Rollover capable roof-rail airbags are designed to help contain the head and chest of occupants in the outboard seating positions in the first and second rows. The rollover capable roof-rail airbags are designed to help reduce the risk of full or partial ejection in rollover events, although no system can prevent all such ejections.

But airbags would not help in many types of collisions, primarily because the occupant's motion is not toward those airbags. See *When Should an Airbag Inflate? on page 3-22* for more information.

Airbags should never be regarded as anything more than a supplement to safety belts.

What Will You See after an Airbag Inflates?

After the frontal airbags and seat-mounted side impact airbags inflate, they quickly deflate, so quickly that some people may not even realize an airbag inflated. Roof-rail airbags may still be at least partially inflated for some time after they inflate. Some components of the airbag module may be hot for several minutes. For location of the airbags, see *Where Are the Airbags? on page 3-21*.

The parts of the airbag that come into contact with you may be warm, but not too hot to touch. There may be some smoke and dust coming from the vents in the deflated airbags. Airbag inflation does not

Information Provided by: DEALER E-PROCESS

prevent the driver from seeing out of the windshield or being able to steer the vehicle, nor does it prevent people from leaving the vehicle.

⚠ WARNING

When an airbag inflates, there may be dust in the air. This dust could cause breathing problems for people with a history of asthma or other breathing trouble. To avoid this, everyone in the vehicle should get out as soon as it is safe to do so. If you have breathing problems but cannot get out of the vehicle after an airbag inflates, then get fresh air by opening a window or a door. If you experience breathing problems following an airbag deployment, you should seek medical attention.

The vehicle has a feature that may automatically unlock the doors, turn the interior lamps on, turn the hazard warning flashers on, and shut off the fuel system after the airbags inflate. You can lock the doors, turn the interior lamps off, and turn the hazard warning flashers off by using the controls for those features.

⚠ WARNING

A crash severe enough to inflate the airbags may have also damaged important functions in the vehicle, such as the fuel system, brake and steering systems, etc. Even if the vehicle appears to be drivable after a moderate crash, there may be concealed damage that could make it difficult to safely operate the vehicle.

Use caution if you should attempt to restart the engine after a crash has occurred.

In many crashes severe enough to inflate the airbag, windshields are broken by vehicle deformation. Additional windshield breakage may also occur from the front outboard passenger airbag.

- Airbags are designed to inflate only once. After an airbag inflates, you will need some new parts for the airbag system. If you do not get them, the airbag system will not be there to help protect you in another crash. A new system will include airbag modules and possibly other parts. The service manual for the vehicle covers the need to replace other parts.
- The vehicle has a crash sensing and diagnostic module which records information after a crash. See *Vehicle Data Recording and Privacy on page 13-19* and *Event Data Recorders on page 13-19*.

Information Provided by: DEALER E-PROCESS

- Let only qualified technicians work on the airbag systems. Improper service can mean that an airbag system will not work properly. See your dealer for service.

Passenger Sensing System

The vehicle has a passenger sensing system for the right front passenger position. The passenger airbag status indicator will be visible on the overhead console when the vehicle is started.



United States



Canada and Mexico

The words ON and OFF, or the symbol for on and off, are visible during the system check. If you are using remote start, if equipped, to start the vehicle from a distance, you may not see the system check. When the system check is complete, either the word ON or OFF, or the symbol for on or off, will be visible. See *Passenger Airbag Status Indicator on page 5-11*.

The passenger sensing system turns off the right front passenger frontal airbag under certain conditions. The driver airbag, seat-mounted side impact airbags and the roof-rail airbags are not affected by the passenger sensing system.

Information Provided by:
DEALER E-PROCESS

The passenger sensing system works with sensors that are part of the right front passenger seat. The sensors are designed to detect the presence of a properly-seated occupant and determine if the right front passenger frontal airbag should be enabled (may inflate) or not.

According to accident statistics, children are safer when properly secured in a rear seat in the correct child restraint for their weight and size.

We recommend that children be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

A label on the sun visor says, “Never put a rear-facing child seat in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

⚠ WARNING

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though the airbag is turned off.

(Continued)

WARNING (CONTINUED)

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

The passenger sensing system is designed to turn off the right front passenger frontal airbag if:

- The right front passenger seat is unoccupied.
- The system determines that an infant is present in a child restraint.
- A right front passenger takes his/her weight off of the seat for a period of time.
- There is a critical problem with the airbag system or the passenger sensing system.

When the passenger sensing system has turned off the right front passenger frontal airbag, the off indicator will light and stay lit to remind you that the airbag is off. See *Passenger Airbag Status Indicator on page 5-11*.

The passenger sensing system is designed to turn on (may inflate) the right front passenger frontal airbag anytime the system senses that a person of adult size is sitting properly in the right front passenger seat.

When the passenger sensing system has allowed the airbag to be enabled, the on indicator will light and stay lit to remind you that the airbag is active.

Information Provided by: DEALER E-PROCESS

For some children, including children in child restraints, and for very small adults, the passenger sensing system may or may not turn off the right front passenger frontal airbag, depending upon the person's seating posture and body build. Everyone in the vehicle who has outgrown child restraints should wear a safety belt properly — whether or not there is an airbag for that person.

⚠ WARNING

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-10* for more information, including important safety information.

If the On Indicator is Lit for a Child Restraint

If a child restraint has been installed and the on indicator is lit:

1. Turn the vehicle off.
2. Remove the child restraint from the vehicle.
3. Remove any additional items from the seat such as blankets, cushions, seat covers, seat heaters, or seat massagers.
4. Reinstall the child restraint following the directions provided by the child restraint manufacturer and refer to *Securing Child Restraints (Front Passenger Seat) on page 3-48* or *Securing Child Restraints (Rear Seat) on page 3-45*.
5. If, after reinstalling the child restraint and restarting the vehicle, the on indicator is still lit, turn the vehicle off. Then slightly recline the vehicle seatback and adjust the seat cushion, if adjustable, to make sure that the vehicle seatback is not pushing the child restraint into the seat cushion.

 Also make sure the child restraint is not trapped under the vehicle head restraint. If this happens, adjust the head restraint. See *Head Restraints on page 3-2*.
6. Restart the vehicle.

 The passenger sensing system may or may not turn off the airbag for a child in a child restraint depending upon the child's seating posture and body build. It is better to secure the child restraint in a rear seat.

Information Provided by: DEALER E-PROCESS

If the Off Indicator is Lit for an Adult-Size Occupant



If a person of adult-size is sitting in the right front passenger seat, but the off indicator is lit, it could be because that person is not sitting properly in the seat. If this happens, use the following steps to allow the system to detect that person and enable the right front passenger frontal airbag:

1. Turn the vehicle off.
2. Remove any additional material from the seat, such as blankets, cushions, seat covers, seat heaters, seat massagers, laptops, or other electronic devices.
3. Place the seatback in the fully upright position.
4. Have the person sit upright in the seat, centered on the seat cushion, with legs comfortably extended.
5. Restart the vehicle and have the person remain in this position for two to three minutes after the on indicator is lit.

Additional Factors Affecting System Operation

Safety belts help keep the passenger in position on the seat during vehicle maneuvers and braking, which helps the passenger sensing system maintain the passenger airbag status. See “Safety Belts” and “Child Restraints” in the Index for additional information about the importance of proper restraint use.

A thick layer of additional material, such as a blanket or cushion, or aftermarket equipment such as seat covers, seat heaters, and seat massagers can affect how well the passenger sensing system operates. We recommend that you not use seat covers or other aftermarket equipment except when approved by GM for your specific vehicle. See *Adding Equipment to the Airbag-Equipped Vehicle on page 3-30* for more information about modifications that can affect how the system operates.

A wet seat can affect the performance of the passenger sensing system. Here is how:

- The passenger sensing system may turn off the passenger airbag when liquid is soaked into the seat. If this happens, the off

Information Provided by: DEALER e-PROCESS

indicator will be lit, and the airbag readiness light on the instrument panel will also be lit.

- Liquid pooled on the seat that has not soaked in may make it more likely that the passenger sensing system will enable (turn on) the passenger airbag while a child restraint or child occupant is on the seat. If the passenger airbag is turned on, the on indicator will be lit.

If the passenger seat gets wet, dry the seat immediately. If the airbag readiness light is lit, do not install a child restraint or allow anyone to occupy the seat. See *Airbag Readiness Light on page 5-10* for important safety information.

The on indicator may be lit if an object, such as a briefcase, handbag, grocery bag, laptop or other electronic device, is put on an unoccupied seat. If this is not desired remove the object from the seat.

⚠ WARNING

Stowing of articles under the passenger seat or between the passenger seat cushion and seatback may interfere with the proper operation of the passenger sensing system.

Servicing the Airbag-Equipped Vehicle

Airbags affect how the vehicle should be serviced. There are parts of the airbag system in several places around the vehicle. Your dealer and the service manual have information about servicing the vehicle and the airbag system. To purchase a service manual, see *Service Publications Ordering Information on page 13-17*.

⚠ WARNING

For up to 10 seconds after the vehicle is turned off and the battery is disconnected, an airbag can still inflate during improper service. You can be injured if you are close to an airbag when it inflates. Avoid yellow connectors. They are probably part of the airbag system. Be sure to follow proper service procedures, and make sure the person performing work for you is qualified to do so.

Adding Equipment to the Airbag-Equipped Vehicle

Q: Is there anything I might add to or change about the vehicle that could keep the airbags from working properly?

A: Yes. If you add things that change the vehicle's frame, bumper system, height, front end or side sheet metal, they may

Information Provided by: DEALER E-PROCESS

keep the airbag system from working properly. Changing or moving any parts of the front seats, safety belts, the airbag sensing and diagnostic module, steering wheel, instrument panel, roof-rail airbag modules, ceiling headliner or pillar garnish trim, overhead console, front sensors, side impact sensors, rollover sensor module, or airbag wiring can affect the operation of the airbag system.

In addition, the vehicle has a passenger sensing system for the right front passenger position, which includes sensors that are part of the passenger seat. The passenger sensing system may not operate properly if the original seat trim is replaced with non-GM covers, upholstery or trim, or with GM covers, upholstery or trim designed for a different vehicle. Any object, such as an aftermarket seat heater or a comfort enhancing pad or device, installed under or on top of the seat fabric, could also interfere with the operation of the passenger sensing system. This could either prevent proper deployment of the passenger airbag(s) or prevent the passenger sensing system from properly turning off the passenger airbag(s). See *Passenger Sensing System on page 3-26*.

If you have questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure (U.S. and Canada) on page 13-2* or *Customer Satisfaction Procedure (Mexico) on page 13-4*.

Information Provided by: DEALER E-PROCESS

If the vehicle has rollover roof-rail airbags, see *Different Size Tires and Wheels on page 10-54* for additional important information.

Q: Because I have a disability, I have to get my vehicle modified. How can I find out whether this will affect my airbag system?

A: If you have questions, call Customer Assistance. The phone numbers and addresses for Customer Assistance are in Step Two of the Customer Satisfaction Procedure in this manual. See *Customer Satisfaction Procedure (U.S. and Canada) on page 13-2* or *Customer Satisfaction Procedure (Mexico) on page 13-4*.

In addition, your dealer and the service manual have information about the location of the airbag sensors, sensing and diagnostic module and airbag wiring.

Airbag System Check

The airbag system does not need regularly scheduled maintenance or replacement. Make sure the airbag readiness light is working. See *Airbag Readiness Light on page 5-10*.

Notice: **If an airbag covering is damaged, opened, or broken, the airbag may not work properly. Do not open or break the airbag coverings. If there are any opened or broken airbag covers, have the airbag covering and/or airbag module replaced. For the location of the airbags, see *Where Are the Airbags? on page 3-21*. See your dealer for service.**

Replacing Airbag System Parts after a Crash

⚠ WARNING

A crash can damage the airbag systems in the vehicle. A damaged airbag system may not work properly and may not protect you and your passenger(s) in a crash, resulting in serious injury or even death. To help make sure the airbag systems are working properly after a crash, have them inspected and any necessary replacements made as soon as possible.

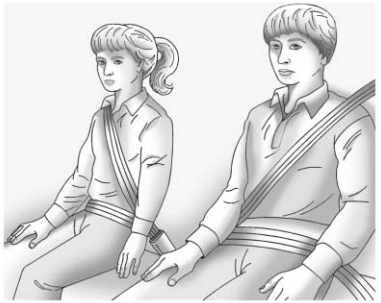
If an airbag inflates, you will need to replace airbag system parts. See your dealer for service.

If the airbag readiness light stays on after the vehicle is started or comes on when you are driving, the airbag system may not work properly. Have the vehicle serviced right away. See *Airbag Readiness Light on page 5-10*.

Information Provided by: DEALER E-PROCESS

Child Restraints

Older Children



Older children who have outgrown booster seats should wear the vehicle safety belts.

The manufacturer instructions that come with the booster seat state the weight and height limitations for that booster. Use a booster seat with a lap-shoulder belt until the child passes the fit test below:

- Sit all the way back on the seat. Do the knees bend at the seat edge? If yes, continue. If no, return to the booster seat.
- Buckle the lap-shoulder belt. Does the shoulder belt rest on the shoulder? If yes, continue. If no, try using the rear safety belt comfort guide. See “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-13*. If the shoulder belt still does not rest on the shoulder, then return to the booster seat.
- Does the lap belt fit low and snug on the hips, touching the thighs? If yes, continue. If no, return to the booster seat.
- Can proper safety belt fit be maintained for the length of the trip? If yes, continue. If no, return to the booster seat.

Q: What is the proper way to wear safety belts?

A: An older child should wear a lap-shoulder belt and get the additional restraint a shoulder belt can provide. The shoulder belt should not cross the face or neck. The lap belt should fit snugly below the hips, just touching the top of the thighs. This applies belt force to the child's pelvic bones in a crash. It should never be worn over the abdomen, which could cause severe or even fatal internal injuries in a crash.

Also see “Rear Safety Belt Comfort Guides” under *Lap-Shoulder Belt on page 3-13*.

Information Provided by: DEALER E-PROCESS

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

In a crash, children who are not buckled up can strike other people who are buckled up, or can be thrown out of the vehicle. Older children need to use safety belts properly.

⚠ WARNING

Never allow more than one child to wear the same safety belt. The safety belt cannot properly spread the impact forces. In a crash, they can be crushed together and seriously injured. A safety belt must be used by only one person at a time.



⚠ WARNING

Never allow a child to wear the safety belt with the shoulder belt behind their back. A child can be seriously injured by not wearing the lap-shoulder belt properly. In a crash, the child would not be restrained by the shoulder belt.

(Continued)

WARNING (CONTINUED)

The child could move too far forward increasing the chance of head and neck injury. The child might also slide under the lap belt. The belt force would then be applied right on the abdomen. That could cause serious or fatal injuries. The shoulder belt should go over the shoulder and across the chest.



Information Provided by: DEALER E-PROCESS

Infants and Young Children

Everyone in a vehicle needs protection! This includes infants and all other children. Neither the distance traveled nor the age and size of the traveler changes the need, for everyone, to use safety restraints. In fact, the law in every state in the United States and in every Canadian province says children up to some age must be restrained while in a vehicle.

⚠ WARNING

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Never leave children unattended in a vehicle and never allow children to play with the safety belts.

Airbags plus lap-shoulder belts offer protection for adults and older children, but not for young children and infants. Neither the vehicle's safety belt system nor its airbag system is designed for them. Every time infants and young children ride in vehicles, they should have the protection provided by appropriate child restraints.

Children who are not restrained properly can strike other people, or can be thrown out of the vehicle.

⚠ WARNING

Never hold an infant or a child while riding in a vehicle. Due to crash forces, an infant or a child will become so heavy it is not possible to hold it during a crash. For example, in a crash at only 40 km/h (25 mph), a 5.5 kg (12 lb) infant will suddenly become a 110 kg (240 lb) force on a person's

(Continued)

Information Provided by: DEALER E-PROCESS

WARNING (CONTINUED)

arms. An infant should be secured in an appropriate restraint.



⚠ WARNING

Children who are up against, or very close to, any airbag when it inflates can be seriously injured or killed. Never put a rear-facing

(Continued)

WARNING (CONTINUED)

child restraint in the right front seat. Secure a rear-facing child restraint in a rear seat. It is also better to secure a forward-facing child restraint in a rear seat. If you must secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go.



Q: What are the different types of add-on child restraints?

A: Add-on child restraints, which are purchased by the vehicle owner, are available in four basic types. Selection of a particular restraint should take into consideration not only the child's weight, height, and age but also whether or not the restraint will be compatible with the motor vehicle in which it will be used.

For most basic types of child restraints, there are many different models available. When purchasing a child restraint, be sure it is designed to be used in a motor vehicle. If it is, the restraint will have a label saying that it meets federal motor vehicle safety standards.

The restraint manufacturer instructions that come with the restraint state the weight and height limitations for a particular child restraint. In addition, there are many kinds of restraints available for children with special needs.

⚠ WARNING

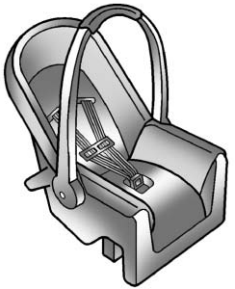
To reduce the risk of neck and head injury during a crash, infants need complete support. In a crash, if an infant is in a rear-facing child restraint, the crash forces can be distributed across the strongest part of an infant's body, the back and shoulders. Infants should always be secured in rear-facing child restraints.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

A young child's hip bones are still so small that the vehicle's regular safety belt may not remain low on the hip bones, as it should. Instead, it may settle up around the child's abdomen. In a crash, the belt would apply force on a body area that is unprotected by any bony structure. This alone could cause serious or fatal injuries. To reduce the risk of serious or fatal injuries during a crash, young children should always be secured in appropriate child restraints.

Child Restraint Systems



Rear-Facing Infant Seat

A rear-facing infant seat provides restraint with the seating surface against the back of the infant.

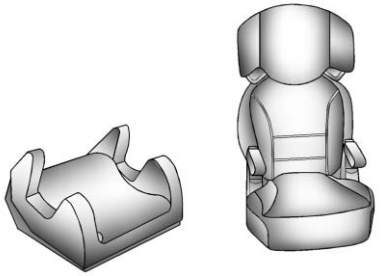
The harness system holds the infant in place and, in a crash, acts to keep the infant positioned in the restraint.



Forward-Facing Child Seat

A forward-facing child seat provides restraint for the child's body with the harness.

Information Provided by: DEALER E-PROCESS



Booster Seats

A booster seat is a child restraint designed to improve the fit of the vehicle's safety belt system.
A booster seat can also help a child to see out the window.

Securing an Add-On Child Restraint in the Vehicle

⚠ WARNING

A child can be seriously injured or killed in a crash if the child restraint is not properly secured in the vehicle. Secure the child restraint properly in the vehicle using the vehicle safety belt or LATCH system, following the instructions that came with that child restraint and the instructions in this manual.

To help reduce the chance of injury, the child restraint must be secured in the vehicle. Child restraint systems must be secured in vehicle seats by lap belts or the lap belt portion of a lap-shoulder belt, or by the LATCH system. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-40*.

Information Provided by: DEALER E-PROCESS

Children can be endangered in a crash if the child restraint is not properly secured in the vehicle.

When securing an add-on child restraint, refer to the instructions that come with the restraint which may be on the restraint itself or in a booklet, or both, and to this manual. The child restraint instructions are important, so if they are not available, obtain a replacement copy from the manufacturer.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in the vehicle — even when no child is in it.

In some areas, Certified Child Passenger Safety Technicians (CPSTs) are available to inspect and demonstrate how to correctly use and install child restraints. In the U.S., refer to the National Highway Traffic Safety Administration (NHTSA) website to

locate the nearest child safety seat inspection station. For CPST availability in Canada, check with Transport Canada or the Provincial Ministry of Transportation office.

Securing the Child within the Child Restraint

⚠ WARNING

A child can be seriously injured or killed in a crash if the child is not properly secured in the child restraint. Secure the child properly following the instructions that came with that child restraint.

Where to Put the Restraint

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position.

We recommend that children and child restraints be secured in a rear seat, including: an infant or a child riding in a rear-facing child restraint; a child riding in a forward-facing child seat; an older child riding in a booster seat; and children, who are large enough, using safety belts.

Never put a rear-facing child seat in the front. This is because the risk to the rear-facing child is so great, if the airbag deploys.

⚠ WARNING

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front

(Continued)

WARNING (CONTINUED)

passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 3-26* for additional information.

Information Provided by: DEALER e-PROCESS

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

Child restraints and booster seats vary considerably in size, and some may fit in certain seating positions better than others. Always make sure the child restraint is properly secured.

Depending on where you place the child restraint and the size of the child restraint, you may not be able to access adjacent safety belt assemblies or LATCH anchors for additional passengers or child restraints. Adjacent seating positions should not be used if the child restraint prevents access to or interferes with the routing of the safety belt.

Wherever a child restraint is installed, be sure to secure the child restraint properly.

Keep in mind that an unsecured child restraint can move around in a collision or sudden stop and injure people in the vehicle. Be sure to properly secure any child restraint in your vehicle — even when no child is in it.

Lower Anchors and Tethers for Children (LATCH System)

The LATCH system secures a child restraint during driving or in a crash. LATCH attachments on the child restraint are used to attach the child restraint to anchors in the vehicle. This system is designed to make installation of a child restraint easier.

Make sure that a LATCH-compatible child restraint is properly installed using the anchors, or use the vehicle's safety belts to secure the restraint, following the instructions that came with that restraint, and also the instructions in this manual.

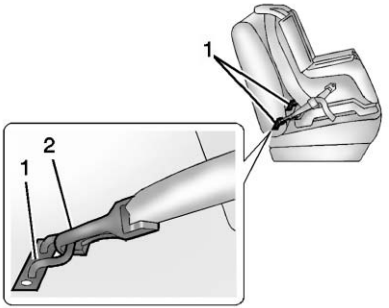
When installing a child restraint with a top tether, you must also use either the lower anchors or the safety belts to properly secure the child restraint. A child restraint must never be installed using only the top tether and anchor.

In order to use the LATCH system in your vehicle, you need a child restraint that has LATCH attachments. The child restraint manufacturer will provide you with instructions on how to use the child restraint and its attachments. The following explains how to attach a child restraint with these attachments in your vehicle.

Not all vehicle seating positions or child restraints have lower anchors and attachments or top tether anchors and attachments.

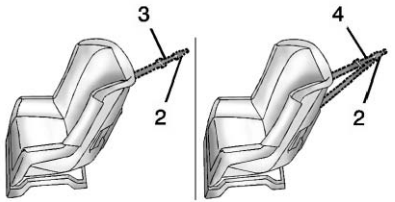
Information Provided by: DEALER E-PROCESS

Lower Anchors



Lower anchors (1) are metal bars built into the vehicle. There are two lower anchors for each LATCH seating position that will accommodate a child restraint with lower attachments (2).

Top Tether Anchor



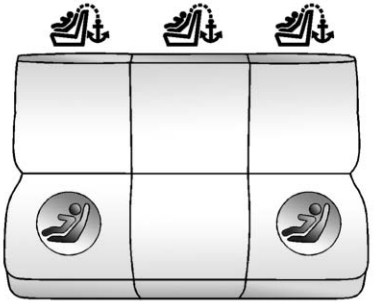
A top tether (3, 4) anchors the top of the child restraint to the vehicle. A top tether anchor is built into the vehicle. The top tether attachment (2) on the child restraint connects to the top tether anchor in the vehicle in order to reduce the forward movement and rotation of the child restraint during driving or in a crash.

Your child restraint may have a single tether (3) or a dual tether (4). Either will have a single attachment (2) to secure the top tether to the anchor.

Some child restraints that have a top tether are designed for use with or without the top tether being attached. Others require the top tether always to be attached. In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached. Be sure to read and follow the instructions for your child restraint.

Information Provided by:
DEALER E-PROCESS

Lower Anchor and Top Tether Anchor Locations

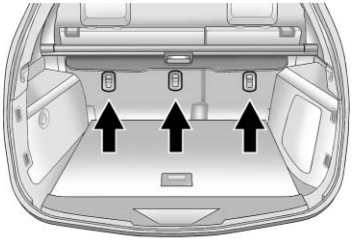


Rear Seat

(Top Tether Anchor): Seating positions with top tether anchors.

(Lower Anchor): Seating positions with two lower anchors.

The rear outboard seating positions have exposed metal anchors located in the crease between the seatback and the seat cushion.



Top Tether Anchors

The top tether anchors for each rear seating position are located on the back of the rear seatback. The rear compartment storage panel/cover might need to be adjusted to access the anchors. Be sure to use an anchor located on the same side of the vehicle as the seating position where the child restraint will be placed.

Do not secure a child restraint in a position without a top tether anchor if a national or local law requires that the top tether be attached, or if the instructions that come with the child restraint say that the top tether must be attached.

According to accident statistics, children and infants are safer when properly restrained in a child restraint system or infant restraint system secured in a rear seating position. See *Where to Put the Restraint on page 3-39* for additional information.

Securing a Child Restraint Designed for the LATCH System

⚠ WARNING

If a LATCH-type child restraint is not attached to anchors, the child restraint will not be able to protect the child correctly. In a crash, the child could be seriously injured or killed. Install a LATCH-type child restraint properly using the anchors, or use the vehicle safety

(Continued)

WARNING (CONTINUED)

belts to secure the restraint, following the instructions that came with the child restraint and the instructions in this manual.

⚠ WARNING

Do not attach more than one child restraint to a single anchor. Attaching more than one child restraint to a single anchor could cause the anchor or attachment to come loose or even break during a crash. A child or others could be injured. To reduce the risk of serious or fatal injuries during a crash, attach only one child restraint per anchor.

⚠ WARNING

Children can be seriously injured or strangled if a shoulder belt is wrapped around their neck and the safety belt continues to tighten. Buckle any unused safety belts behind the child restraint so children cannot reach them. Pull the shoulder belt all the way out of the retractor to set the lock, if the vehicle has one, after the child restraint has been installed.

Notice: **Do not let the LATCH attachments rub against the vehicle's safety belts. This may damage these parts. If necessary, move buckled safety belts to avoid rubbing the LATCH attachments.**

Do not fold the empty rear seat with a safety belt buckled. This could damage the safety belt or the seat. Unbuckle and return the safety belt to its stowed position, before folding the seat.

Information provided by

If you need to secure more than one child restraint in the rear seat, see *Where to Put the Restraint on page 3-39*.

This system is designed to make installation of child restraints easier. When using lower anchors, do not use the vehicle's safety belts. Instead, use the vehicle's anchors and child restraint attachments to secure the restraints. Some restraints also use another vehicle anchor to secure a top tether.

1. Attach and tighten the lower attachments to the lower anchors. If the child restraint does not have lower attachments or the desired seating position does not have lower anchors, secure the child restraint with the top tether and the safety belts. Refer to the child restraint manufacturer instructions and the instructions in this manual.

1.1. Find the lower anchors for the desired seating position.

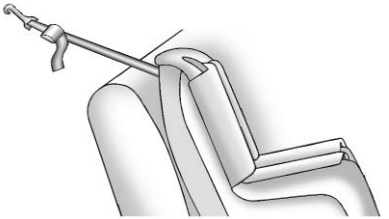
1.2. Put the child restraint on the seat.

1.3. Attach and tighten the lower attachments on the child restraint to the lower anchors.

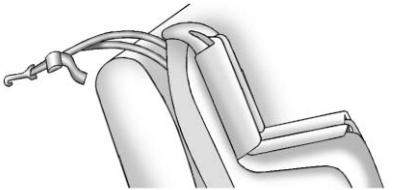
2. If the child restraint manufacturer recommends that the top tether be attached, attach and tighten the top tether to the top tether anchor, if equipped. Refer to the child restraint instructions and the following steps:

2.1. Find the top tether anchor.

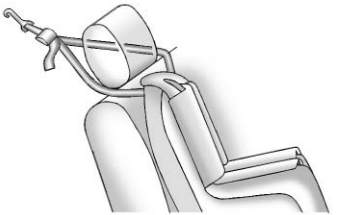
2.2. Route, attach and tighten the top tether according to your child restraint instructions and the following instructions:



- If the position being used does not have a headrest or head restraint and a single tether is being used, route the tether over the seatback.

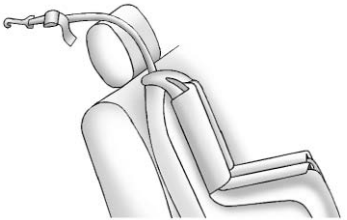


- If the position being used does not have a headrest or head restraint and a dual tether is being used, route the tether over the seatback.



- If the position being used has a fixed headrest or head restraint and a dual tether is being used, route the tether around the headrest or head restraint.

Information Provided by: DEALER E-PROCESS



- If the position being used has a fixed headrest or head restraint and a single tether is being used, route the tether over the headrest or head restraint.

3. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the LATCH path and attempt to move it side-to-side and back-and-forth. There should be no more than 2.5 cm (1 in) of movement, for proper installation.

Replacing LATCH System Parts After a Crash

⚠ WARNING

A crash can damage the LATCH system in the vehicle. A damaged LATCH system may not properly secure the child restraint, resulting in serious injury or even death in a crash. To help make sure the LATCH system is working properly after a crash, see your dealer to have the system inspected and any necessary replacements made as soon as possible.

If the vehicle has the LATCH system and it was being used during a crash, new LATCH system parts may be needed.

New parts and repairs may be necessary even if the LATCH system was not being used at the time of the crash.

Powered by: DEALER E-PROCESS

Securing Child Restraints (Rear Seat)

When securing a child restraint in a rear seating position, study the instructions that came with the child restraint to make sure it is compatible with this vehicle.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for how and where to install the child restraint using LATCH. If a child restraint is secured in the vehicle using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for top tether anchor locations.

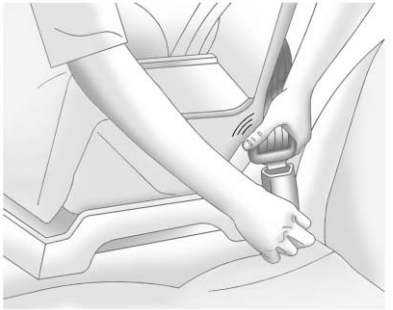
Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

If the child restraint does not have the LATCH system, you will be using the safety belt to secure the child restraint in this position. Be sure to follow the instructions that came with the child restraint. Secure the child in the child restraint when and as the instructions say.

If more than one child restraint needs to be installed in the rear seat, be sure to read *Where to Put the Restraint on page 3-39*.

1. Put the child restraint on the seat.
2. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



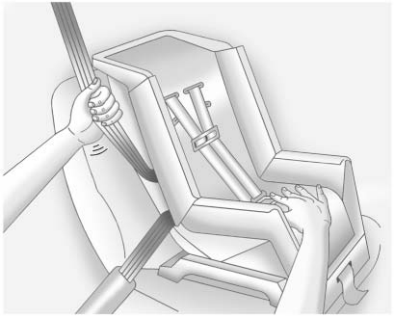
3. Push the latch plate into the buckle until it clicks.

 Position the release button on the buckle so that the safety belt could be quickly unbuckled if necessary.



4. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.

Information Provided by: DEALER E-PROCESS



5. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 4 and 5.

6. If the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for more information.

7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position. If the top tether is attached to a top tether anchor, disconnect it.

Information Provided by: DEALER E-PROCESS

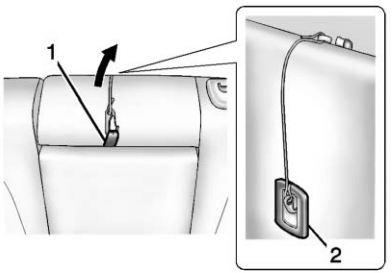
Armrest Retaining Strap

⚠ WARNING

A rear center armrest that is not properly stowed and secured could fall forward during a sudden stop or collision. The armrest could contact an infant secured in a rear-facing child restraint in the center seat position. Fasten the retaining strap onto the stowed armrest before installing a rear-facing child restraint in the rear center seat position.



When new, the vehicle's glove box materials included an armrest retaining strap. Use it to secure the center armrest before installing a rear-facing child restraint in the second row center seat position.



Stow the rear seat center armrest. Attach the retaining strap to the armrest loop (1) and to the center top tether anchor on the seatback (2). Make sure the retaining strap's clips are firmly attached.

Install the rear-facing child restraint using the child restraint manufacturer's instructions and the instructions described previously.

Remove the armrest retaining strap before installing a forward facing child restraint in the center seat position, as it may interfere with the attachment of the top tether to the top tether anchor on the seatback.

Securing Child Restraints (Front Passenger Seat)

This vehicle has airbags. A rear seat is a safer place to secure a forward-facing child restraint. See *Where to Put the Restraint on page 3-39*.

In addition, the vehicle has a passenger sensing system which is designed to turn off the right front passenger frontal airbag under certain conditions. See *Passenger Sensing System on page 3-26* and *Passenger Airbag Status Indicator on page 5-11* for more information, including important safety information.

A label on the sun visor says, “Never put a rear-facing child seat in the front.” This is because the risk to the rear-facing child is so great, if the airbag deploys.

Information Provided by:
DEALER E-PROCESS

⚠ WARNING

A child in a rear-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates. This is because the back of the rear-facing child restraint would be very close to the inflating airbag. A child in a forward-facing child restraint can be seriously injured or killed if the right front passenger airbag inflates and the passenger seat is in a forward position.

Even if the passenger sensing system has turned off the right front passenger frontal airbag, no system is fail-safe. No one can guarantee that an airbag will not deploy under some unusual circumstance, even though it is turned off.

(Continued)

WARNING (CONTINUED)

Secure rear-facing child restraints in a rear seat, even if the airbag is off. If you secure a forward-facing child restraint in the right front seat, always move the front passenger seat as far back as it will go. It is better to secure the child restraint in a rear seat.

See *Passenger Sensing System on page 3-26* for additional information.

If the child restraint has the LATCH system, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for how and where to install the child restraint using LATCH. If a child restraint is secured using a safety belt and it uses a top tether, see *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for top tether anchor locations.

Do not secure a child seat in a position without a top tether anchor if a national or local law requires that the top tether be anchored, or if the instructions that come with the child restraint say that the top strap must be anchored.

In Canada, the law requires that forward-facing child restraints have a top tether, and that the tether be attached.

Information Provided by: DEALER E-PROCESS

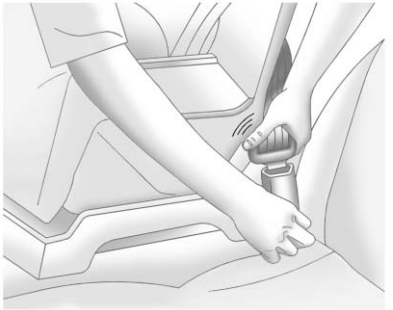
You will be using the lap-shoulder belt to secure the child restraint in this position. Follow the instructions that came with the child restraint.

1. Move the seat as far back as it will go before securing the forward-facing child restraint.

 When the passenger sensing system has turned off the right front passenger frontal airbag and seat-mounted side impact airbag, the off indicator on the passenger airbag status indicator should light and stay lit when you start the vehicle. See *Passenger Airbag Status Indicator on page 5-11*.

2. Put the child restraint on the seat.

3. Pick up the latch plate, and run the lap and shoulder portions of the vehicle's safety belt through or around the restraint. The child restraint instructions will show you how.



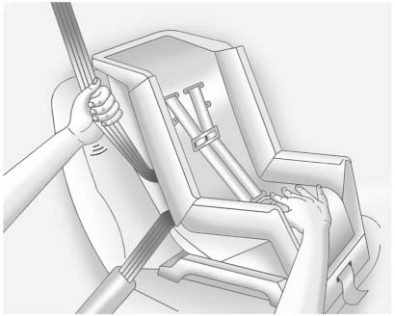
4. Push the latch plate into the buckle until it clicks.

 Position the release button on the buckle, so that the safety belt could be quickly unbuckled if necessary.



5. Pull the shoulder belt all the way out of the retractor to set the lock. When the retractor lock is set, the belt can be tightened but not pulled out of the retractor.

Information Provided by:
DEALER E-PROCESS



6. To tighten the belt, push down on the child restraint, pull the shoulder portion of the belt to tighten the lap portion of the belt, and feed the shoulder belt back into the retractor. When installing a forward-facing child restraint, it may be helpful to use your knee to push down on the child restraint as you tighten the belt.

 Try to pull the belt out of the retractor to make sure the retractor is locked. If the retractor is not locked, repeat Steps 5 and 6.

 If the vehicle does not have a rear seat and the child restraint has a top tether, follow the child restraint manufacturer's instructions regarding the use of the top tether. See *Lower Anchors and Tethers for Children (LATCH System) on page 3-40* for more information.

7. Before placing a child in the child restraint, make sure it is securely held in place. To check, grasp the child restraint at the safety belt path and attempt to move it side to side and back and forth. When the child restraint is properly installed, there should be no more than 2.5 cm (1 in) of movement.

If the airbags are off, the off indicator in the passenger airbag status indicator will come on and stay on when the vehicle is started.

If a child restraint has been installed and the on indicator is lit, see “If the On Indicator is Lit for a Child Restraint” under *Passenger Sensing System on page 3-26* for more information.

To remove the child restraint, unbuckle the vehicle safety belt and let it return to the stowed position.

Information Provided by:
DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Storage

Storage Compartments
Glove Box 4-1
Cupholders 4-1
Center Console Storage 4-1

Additional Storage Features
Cargo Cover 4-2
Cargo Tie-Downs 4-2
Convenience Net 4-2

Roof Rack System
Roof Rack System 4-2

Storage Compartments

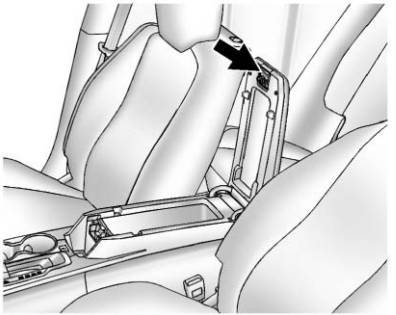
Glove Box

Open the glove box by lifting up on the lever.

Cupholders

Two cupholders are in the center console. Cupholders may be located in the second row seat armrest. To access, pull the armrest down.

Center Console Storage



For vehicles with a center console storage, lift the lever on the front to open.

Information Provided by:
DEALER E-PROCESS

Additional Storage Features

Cargo Cover

For vehicles with a cargo cover, use it to cover items in the rear of the vehicle.

To remove the cover from the vehicle, pull both ends toward each other. To reinstall, place each end of the cover in the holes behind the rear seat.

Cargo Tie-Downs



The vehicle may be equipped with four cargo tie-downs located in the rear compartment.

Convenience Net

This vehicle may have a convenience net located in the rear of the vehicle. Attach it to the cargo tie-downs for storing small loads.

Do not use the net to store heavy loads.

Roof Rack System

⚠ WARNING

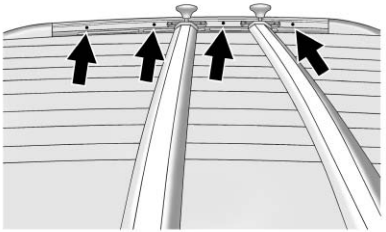
If something is carried on top of the vehicle that is longer or wider than the roof rack — like paneling, plywood, or a mattress — the wind can catch it while the vehicle is being driven. The item being carried could be violently torn off, and this could cause a collision and damage the vehicle. Never carry something longer or wider than the roof rack on top of the vehicle unless using a GM certified accessory carrier.

This vehicle may be equipped with a roof rack. For roof racks that do not have cross rails included, GM certified cross rails can be purchased as an accessory. See your dealer for additional information.

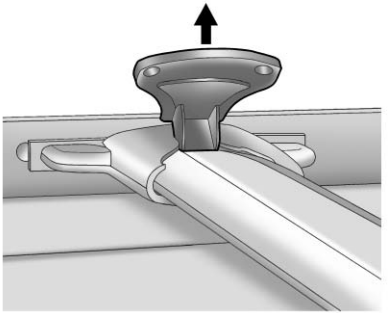
Information Provided by: DEALER E-PROCESS

Notice: **Loading cargo on the roof rack that weighs more than 100 kg (220 lbs) or hangs over the rear or sides of the vehicle may damage the vehicle. Load cargo so that it rests evenly between the crossrails, making sure to fasten cargo securely.**

To prevent damage or loss of cargo when driving, check to make sure cross rails and cargo are securely fastened. Loading cargo on the roof rack will make the vehicle's center of gravity higher. Avoid high speeds, sudden starts, sharp turns, sudden braking, or abrupt maneuvers; otherwise it may result in loss of control. If driving for a long distance, on rough roads, or at high speeds, occasionally stop the vehicle to make sure the cargo remains in its place. Do not exceed the maximum vehicle capacity when loading the vehicle. For more information on vehicle capacity and loading, see *Vehicle Load Limits on page 9-14*.



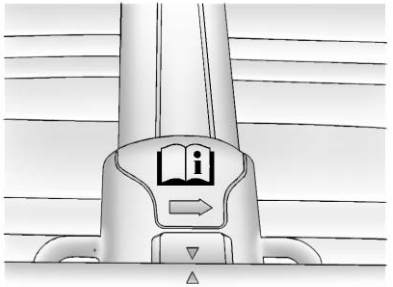
The roof rack cross rails can be locked in four positions along the roof rack side rails. These are the only positions that the cross rails will lock.



Lift the lever to release and move the cross rail.

Position the cross rail on both sides of the vehicle at the same time.

Information Provided by:
DEALER E-PROCESS



Push the lever down to completely engage into the side rail holes. If the lever is not tight, then the cross rail is not engaged in a side rail hole.

Slide the cross rails back and forth until the lock pins engage in the holes and a click is heard as the pins align and the cross rail locks.

Try sliding the cross rails forward and backward to ensure that they are correctly secured and that the levers stay tight to the cross rails.

Do not stand on the plastic lower body panels when loading cargo on the roof rack.

When the roof rack is not in use, lock one cross rail at the furthest forward position and lock the other cross rail at the furthest rearward position to reduce wind noise.

Information Provided by:
DEALER E-PROCESS

Instruments and Controls

Controls

Steering Wheel Adjustment . . . 5-2
Steering Wheel Controls 5-2
Horn 5-3
Windshield Wiper/Washer 5-3
Rear Window Wiper/Washer 5-4
Compass 5-5
Power Outlets 5-5

Warning Lights, Gauges, and Indicators

Warning Lights, Gauges, and Indicators 5-6
Instrument Cluster 5-7
Speedometer 5-8
Odometer 5-8
Tachometer 5-8
Fuel Gauge 5-8
Engine Coolant Temperature Gauge 5-9
Safety Belt Reminders 5-10
Airbag Readiness Light 5-10
Passenger Airbag Status Indicator 5-11
Charging System Light 5-12
Malfunction Indicator Lamp 5-12
Brake System Warning Light 5-14
Antilock Brake System (ABS) Warning Light 5-15
Lane Departure Warning (LDW) Light 5-16
Forward Collision Alert (FCA) Warning Light 5-16
Traction Off Light 5-16
StabiliTrak® OFF Light 5-17
Traction Control System (TCS)/StabiliTrak® Light 5-17
Tire Pressure Light 5-18
Engine Oil Pressure Light 5-18
Fuel Economy Light 5-19
Low Fuel Warning Light 5-19
Security Light 5-19
High-Beam On Light 5-20
Front Fog Lamp Light 5-20
Lamps On Reminder 5-20
Cruise Control Light 5-20

Information Displays

Driver Information Center (DIC) 5-21

Vehicle Messages

Vehicle Messages 5-24
Battery Voltage and Charging Messages 5-24
Brake System Messages 5-25
Compass Messages 5-25
Cruise Control Messages 5-25
Door Ajar Messages 5-25
Engine Cooling System Messages 5-25
Engine Oil Messages 5-26
Engine Power Messages 5-27
Fuel System Messages 5-27
Key and Lock Messages 5-27
Object Detection System Messages 5-27
Ride Control System Messages 5-28
Airbag System Messages 5-29
Security Messages 5-29
Service Vehicle Messages . . . 5-29
Tire Messages 5-30
Transmission Messages 5-30
Vehicle Reminder Messages 5-31

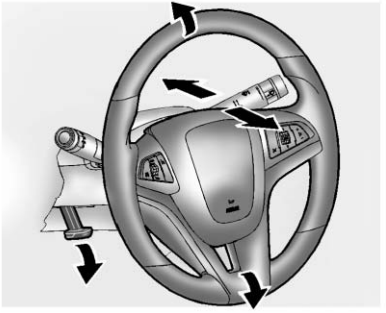
Information Provided by: DEALER E-PROCESS

Vehicle Personalization
Vehicle Personalization 5-31

Universal Remote System
Universal Remote System . . . 5-36
Universal Remote System Programming 5-36
Universal Remote System Operation 5-39

Controls

Steering Wheel Adjustment



To adjust the steering wheel:

1. Pull the lever down.
2. Move the steering wheel up or down.
3. Pull or push the steering wheel closer or away from you.
4. Pull the lever up to lock the steering wheel in place.

Do not adjust the steering wheel while driving.

Steering Wheel Controls



Some audio steering wheel controls can be adjusted at the steering wheel.

/ : Press to interact with the available Bluetooth or OnStar systems.

/ : Press to silence the vehicle speakers only. Press again to turn the sound on. For vehicles

with OnStar or Bluetooth systems, press to reject an incoming call, or end a current call.

△ **SRC** ▽ **:** Press to select an audio source.

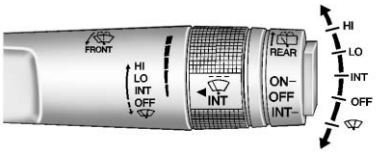
Toggle up or down to select the next or previous favorite radio station, CD, or MP3 track.

+ VOL −: Press + to increase the volume; press − to decrease the volume.

Horn

Press on the steering wheel pad to sound the horn.

Windshield Wiper/Washer

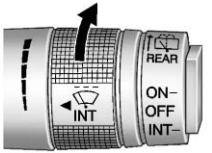


The windshield wiper/washer lever is located on the right side of the steering column. With the ignition in ACC/ACCESSORY or ON/RUN/START, move the windshield wiper lever to select the wiper speed.

HI: Use for fast wipes.

LO: Use for slow wipes.

INT: (Intermittent Wipes): Move the lever up to INT for intermittent wipes, then turn the INT band up for more frequent wipes or down for less frequent wipes.



OFF: Use to turn the wipers off.

(Mist): For a single wipe, briefly move the wiper lever down. For several wipes, hold the wiper lever down.

Information Provided by:
DEALER E-PROCESS

↓ **FRONT (Windshield Washer):** Pull the windshield wiper lever toward you to spray windshield washer fluid and activate the wipers. The wipers will continue until the lever is released or the maximum wash time is reached. When the windshield wiper lever is released, additional wipes may occur depending on how long the windshield washer had been activated. See *Washer Fluid on page 10-20* for information on filling the windshield washer fluid reservoir.

⚠ WARNING

In freezing weather, do not use the washer until the windshield is warmed. Otherwise the washer fluid can form ice on the windshield, blocking your vision.

Clear snow and ice from the wiper blades before using them. If frozen to the windshield, carefully loosen or thaw them. Damaged blades should be replaced. See *Wiper Blade Replacement on page 10-25*.

Heavy snow or ice can overload the wiper motor.

Wipe Parking

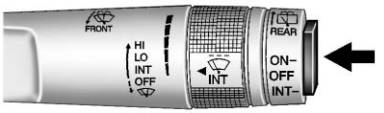
If the ignition is turned to LOCK/OFF while the wipers are on LO, HI, or INT, they will immediately stop.

If the windshield wiper lever is then moved to off before the driver door is opened or within 10 minutes, the wipers will restart and move to the base of the windshield.

If the ignition is turned to LOCK/OFF while the wipers are performing wipes due to windshield washing, the wipers continue to run until they reach the base of the windshield.

Rear Window Wiper/ Washer

The rear wiper controls are on the end of the windshield wiper lever.



ON: Press the upper portion of the button for continuous rear window wipes.

OFF: The rear wiper turns off when the button is returned to the middle position.

INT (Intermittent Rear Wipes): Press the lower portion of the button to set a delay between wipes.

Information Provided by: DEALER E-PROCESS

↑ **REAR (Rear Washer):** Push the windshield wiper lever forward to spray washer fluid on the rear window. The lever returns to its starting position when released.

The windshield washer reservoir is used for the windshield and the rear window. Check the fluid level in the reservoir if either washer is not working. See *Washer Fluid on page 10-20*.

Compass

The vehicle may have a compass display in the Driver Information Center (DIC). The compass receives its heading and other information from the Global Positioning System (GPS) antenna, StabiliTrak, and vehicle speed information.

Avoid covering the GPS antenna, located on the roof, for long periods of time with objects that may interfere with the antenna's ability to receive a satellite signal. The compass system is designed to operate for a certain number of miles or degrees of turn before needing a signal from the GPS satellites. When the compass display shows CAL, drive the vehicle for a short distance in an open area where it can receive a GPS signal. The compass system will automatically determine when the GPS signal is restored and provide a heading again.

Power Outlets

The accessory power outlets can be used to connect electrical equipment, such as a cell phone or MP3 player.

There are four accessory power outlets in the following locations: below the CD slot, inside the center console storage, on the rear of the center console storage, and in the rear cargo compartment.

To use the outlets, remove the cover and close when not in use.

Notice: **Leaving electrical equipment plugged in for an extended period of time while the vehicle is off will drain the battery. Always unplug electrical equipment when not in use and do not plug in equipment that exceeds the maximum 20 ampere rating.**

Information Provided by: DEALER E-PROCESS

Certain accessory plugs may not be compatible with the accessory power outlets and could overload vehicle and adapter fuses. If a problem is experienced, see your dealer.

When adding electrical equipment, be sure to follow the installation instructions included with the equipment. See *Add-On Electrical Equipment on page 9-59*.

Notice: **Hanging heavy equipment from the power outlet can cause damage not covered by the vehicle warranty. The power outlets are designed for accessory power plugs only, such as cell phone charge cords.**

Warning Lights, Gauges, and Indicators

Warning lights and gauges can signal that something is wrong before it becomes serious enough to cause an expensive repair or replacement. Paying attention to the warning lights and gauges could prevent injury.

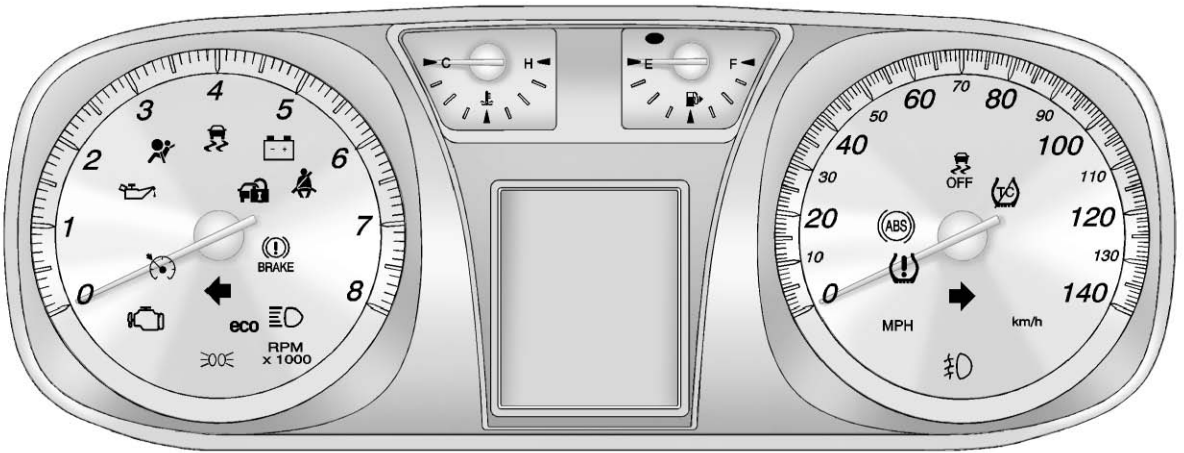
Warning lights come on when there could be a problem with a vehicle function. Some warning lights come on briefly when the engine is started to indicate they are working.

Gauges can indicate when there could be a problem with a vehicle function. Often gauges and warning lights work together to indicate a problem with the vehicle.

When one of the warning lights comes on and stays on while driving, or when one of the gauges shows there may be a problem, check the section that explains what to do. Follow this manual's advice. Waiting to do repairs can be costly and even dangerous.

Information Provided by: DEALER E-PROCESS

Instrument Cluster



English Shown, Metric Similar

Information Provided by:
DEALER E-PROCESS

Speedometer

The vehicle's speed can be selected to display on the Driver Information Center (DIC) and the speedometer in either kilometers per hour (km/h) or miles per hour (mph). Telltales on the speedometer indicate whether kilometers or miles were chosen. The DIC will show the vehicle's speed after the limit on the speedometer has been reached.

Odometer

The odometer shows how far the vehicle has been driven, in either kilometers or miles.

This vehicle has a tamper-resistant odometer. The digital odometer will read 999,999 if it is turned back.

If the vehicle needs a new odometer installed, it must be set to the mileage total of the old odometer.

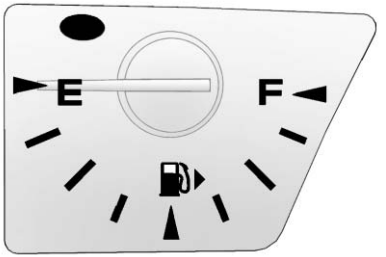
Tachometer

The tachometer displays the engine speed in revolutions per minute (rpm).

Fuel Gauge



Metric



English

When the ignition is on, the fuel gauge shows about how much fuel the vehicle has left in the fuel tank.

An arrow on the fuel gauge indicates the side of the vehicle the fuel door is on.

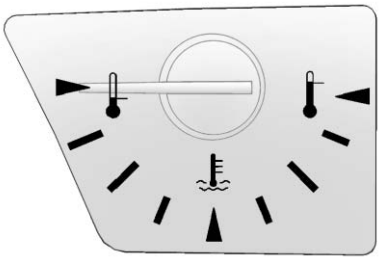
The gauge will first indicate empty before the vehicle is out of fuel and the low fuel light comes on, but the vehicle's fuel tank should be filled soon.

Information Provided by:
DEALER E-PROCESS

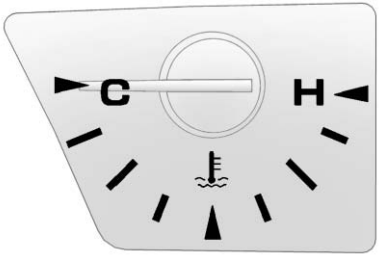
Here are some situations that can occur with the fuel gauge. None of these indicate a problem with the fuel gauge.

- At the service station, the fuel pump shuts off before the gauge reads full.
- It takes a little more or less fuel to fill up than the gauge indicated. For example, the gauge may have indicated the tank was half full, but it actually took a little more or less than half the tank's capacity to fill the tank.
- The gauge moves a little while turning a corner or speeding up.
- The gauge takes a few seconds to stabilize after the ignition is turned on, and goes back to empty when the ignition is turned off.

Engine Coolant Temperature Gauge



Metric



English

This gauge measures the temperature of the vehicle's engine.

If the indicator needle moves to the hot side of the gauge toward the colored line, the engine is too hot.

If the vehicle has been operated under normal driving conditions, pull off the road, stop the vehicle, and turn off the engine as soon as possible.

Information Provided by:
DEALER E-PROCESS

Safety Belt Reminders

Driver Safety Belt Reminder Light

There is a driver safety belt reminder light on the instrument cluster.



When the vehicle is started, this light flashes and a chime may come on to remind the driver to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle may continue several times if the driver remains or becomes unbuckled while the vehicle is moving.

If the driver safety belt is buckled, neither the chime nor the light comes on.

Passenger Safety Belt Reminder Light

There is a passenger safety belt reminder light near the passenger airbag status indicator. See *Passenger Sensing System on page 3-26*.



When the vehicle is started, this light flashes and a chime may come on to remind passengers to fasten their safety belt. Then the light stays on solid until the belt is buckled. This cycle continues several times if the passenger remains or becomes unbuckled while the vehicle is moving.

If the passenger safety belt is buckled, neither the chime nor the light comes on.

Information Provided by: DEALER E-PROCESS

The front passenger safety belt warning light and chime may turn on if an object is put on the seat such as a briefcase, handbag, grocery bag, laptop, or other electronic device. To turn off the warning light and/or chime, remove the object from the seat or buckle the safety belt.

Airbag Readiness Light

This light shows if there is an electrical problem with the airbag system. The system check includes the airbag sensor(s), passenger sensing system, the pretensioners, the airbag modules, the wiring, and the crash sensing and diagnostic module. For more information on the airbag system, see *Airbag System on page 3-19*.



The airbag readiness light comes on for several seconds when the vehicle is started. If the light does not come on then, have it fixed immediately.

⚠ WARNING

If the airbag readiness light stays on after the vehicle is started or comes on while driving, it means the airbag system might not be working properly. The airbags in the vehicle might not inflate in a crash, or they could even inflate without a crash. To help avoid injury, have the vehicle serviced right away.

If there is a problem with the airbag system, a Driver Information Center (DIC) message may also come on. See *Airbag System Messages on page 5-29*.

Passenger Airbag Status Indicator

The vehicle has a passenger sensing system. See *Passenger Sensing System on page 3-26* for important safety information. The overhead console has a passenger airbag status indicator.



United States



Canada and Mexico

When the vehicle is started, the passenger airbag status indicator will light ON and OFF, or the symbol for on and off, for several seconds as a system check. If you are using remote start, if equipped, to start the vehicle from a distance, you may not see the system check. Then, after several more seconds, the status indicator will light either ON or OFF, or either the on or off symbol to let you know the status of the right front passenger frontal airbag.

If the word ON or the on symbol is lit on the passenger airbag status indicator, it means that the right front passenger frontal airbag is enabled (may inflate).

If the word OFF or the off symbol is lit on the passenger airbag status indicator, it means that the passenger sensing system has turned off the right front passenger frontal airbag.

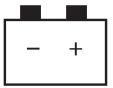
If, after several seconds, both status indicator lights remain on, or if there are no lights at all, there may be a problem with the lights or the passenger sensing system. See your dealer for service.

Information provided by

⚠ WARNING

If the airbag readiness light ever comes on and stays on, it means that something may be wrong with the airbag system. To help avoid injury to yourself or others, have the vehicle serviced right away. See *Airbag Readiness Light on page 5-10* for more information, including important safety information.

Charging System Light



The charging system light comes on briefly when the ignition is turned on, but the engine is not running, as a check to show the light is working. The light turns off when the engine is started. If it does not, have the vehicle serviced by your dealer.

If the light stays on, or comes on while driving, there may be a problem with the electrical charging system. Have it checked by your dealer. Driving while this light is on could drain the battery.

When this light comes on, the Driver Information Center (DIC) also displays a message.

See *Battery Voltage and Charging Messages on page 5-24*.

If a short distance must be driven with the light on, be sure to turn off all accessories, such as the radio and air conditioner.

Malfunction Indicator Lamp

A computer system called OBD II (On-Board Diagnostics-Second Generation) monitors the operation of the vehicle to ensure emissions are at acceptable levels, helping to maintain a clean environment. The malfunction indicator lamp comes on when the vehicle is placed in ON/RUN, as a check to show it is working. If it does not, have the vehicle serviced by your dealer. See *Ignition Positions on page 9-19*.



If the malfunction indicator lamp comes on while the engine is running, this indicates that the OBD II system has detected a problem and diagnosis and service might be required.

Malfunctions often are indicated by the system before any problem is apparent. Being aware of the light can prevent more serious damage to the vehicle. This system also assists the service technician in correctly diagnosing any malfunction.

Notice: **If the vehicle is continually driven with this light on, the emission controls might not work as well, the vehicle fuel economy might not be as good, and the engine might not run as smoothly. This could lead to costly repairs that might not be covered by the vehicle warranty.**

Notice: **Modifications made to the engine, transmission, exhaust, intake, or fuel system of the vehicle or the replacement of the original tires with other than those of the same Tire Performance Criteria (TPC) can affect the vehicle's emission controls and can cause this light to come on. Modifications to these systems could lead to costly repairs not covered by the vehicle warranty. This could also result in a failure to pass a required Emission Inspection/ Maintenance test. See *Accessories and Modifications on page 10-2*.**

This light comes on during a malfunction in one of two ways:

Light Flashing: A misfire condition has been detected. A misfire increases vehicle emissions and could damage the emission control system on the vehicle. Diagnosis and service might be required.

To prevent more serious damage to the vehicle:

- Reduce vehicle speed.
- Avoid hard accelerations.
- Avoid steep uphill grades.
- If towing a trailer, reduce the amount of cargo being hauled as soon as it is possible.

If the light continues to flash, find a safe place to stop and park the vehicle. Turn the vehicle off, wait at least 10 seconds, and restart the engine. If the light is still flashing, follow the previous steps and see your dealer for service as soon as possible.

Information Provided by: DEALER E-PROCESS

Light On Steady: An emission control system malfunction has been detected on the vehicle. Diagnosis and service might be required.

The following may correct an emission control system malfunction:

- Check that the fuel cap is fully installed. See *Filling the Tank on page 9-51*. The diagnostic system can determine if the fuel cap has been left off or improperly installed. A loose or missing fuel cap allows fuel to evaporate into the atmosphere. A few driving trips with the cap properly installed should turn the light off.
- Check that good quality fuel is used. Poor fuel quality causes the engine not to run as efficiently as designed and may cause stalling after start-up, stalling when the vehicle is changed into gear, misfiring, hesitation on acceleration,

or stumbling on acceleration. These conditions might go away once the engine is warmed up.

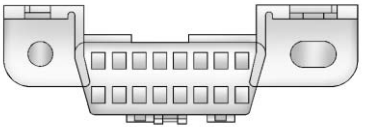
If one or more of these conditions occurs, change the fuel brand used. It may require at least one full tank of the proper fuel to turn the light off.

See *Recommended Fuel on page 9-48*.

If none of the above have made the light turn off, your dealer can check the vehicle. The dealer has the proper test equipment and diagnostic tools to fix any mechanical or electrical problems that might have developed.

Emissions Inspection and Maintenance Programs

Depending on where you live, your vehicle may be required to participate in an emission control system inspection and maintenance program. For the inspection, the emission system test equipment will likely connect to the vehicle's Data Link Connector (DLC).



The DLC is under the instrument panel to the left of the steering wheel. See your dealer if assistance is needed.

The vehicle may not pass inspection if:

- The malfunction indicator lamp is on with the engine running, or if the light does not come on when the ignition is turned to ON/RUN while the engine is off. See your dealer for assistance in verifying proper operation of the malfunction indicator lamp.
- The OBD II (On-Board Diagnostics) system determines that critical emission control systems have not been completely diagnosed. The vehicle would be considered not ready for inspection. This can happen if the 12-volt battery has recently been replaced or run down. The diagnostic system is designed to evaluate critical emission control systems during normal driving. This can take several days of routine driving. If this has been done and the vehicle still does not pass the inspection for lack of OBD II system readiness, your dealer can prepare the vehicle for inspection.

Information Provided by: DEALER E-PROCESS

Brake System Warning Light

The vehicle brake system consists of two hydraulic circuits. If one circuit is not working, the remaining circuit can still work to stop the vehicle. For normal braking performance, both circuits need to be working



Metric



English

The brake indicator light should come on briefly as the engine is started. If it does not come on have the vehicle serviced by your dealer.

When the ignition is on, the brake system warning light comes on when the parking brake is set. The light stays on if the parking brake does not fully release. If it stays on after the parking brake is fully released, there is a brake problem. Have the brake system inspected immediately.

⚠ WARNING

The brake system might not be working properly if the brake system warning light is on. Driving with the brake system warning light on can lead to a crash. If the light is still on after the vehicle has been pulled off the road and carefully stopped, have the vehicle towed for service.

If the light comes on while driving, a chime sounds. Pull off the road and stop. The pedal might be harder to push or go closer to the floor. It might also take longer to stop. If the light is still on, have the vehicle towed for service. See *Towing the Vehicle on page 10-69*.

Antilock Brake System (ABS) Warning Light



For vehicles with the Antilock Brake System (ABS), this light comes on briefly when the engine is started.

If the light does not come on, have it fixed so it will be ready to warn if there is a problem.

If the ABS light comes on and stays on while driving, stop as soon as possible and turn the ignition off. Start the engine again to reset the system. If the light stays on after driving at a speed above 20 km/h (13 mph), see your dealer for service. A chime may also sound when the light comes on steady.

Information Provided by: DEALER E-PROCESS

If the regular brake system warning light is not on, the vehicle still has brakes, but not antilock brakes.
If the regular brake system warning light is also on, the vehicle does not have antilock brakes and there is a problem with the regular brakes. See *Brake System Warning Light on page 5-14*.

See *Brake System Messages on page 5-25* for all brake-related DIC messages.

Lane Departure Warning (LDW) Light



For vehicles with the lane departure warning system, this light is located on the center of the instrument panel. This light briefly comes on green while starting the vehicle. If it does not, have the vehicle serviced by your dealer. If the system is working normally the indicator light then turns off.

This light also comes on green when the system is switched on and ready to operate.

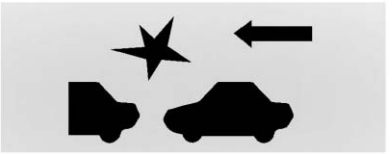
See *Lane Departure Warning (LDW) on page 9-46* for more information.

Forward Collision Alert (FCA) Warning Light

These lights are located on the center of the instrument panel.



The vehicle ahead light comes on when a vehicle is ahead and a possible collision can occur.



The forward collision alert comes on and warns when following a vehicle closely. The light then flashes when a vehicle is being rapidly approached.

See *Forward Collision Alert (FCA) System on page 9-37* for more information.

Traction Off Light



This light comes on briefly while starting the engine. If it does not, have the vehicle serviced by your

Information Provided by: DEALER E-PROCESS

dealer. If the system is working normally, the indicator light then turns off.

The traction off light comes on when the Traction Control System (TCS) has been turned off by pressing and releasing the TCS/StabiliTrak button.

This light and the StabiliTrak OFF light come on when StabiliTrak is turned off.

If the TCS is off, wheel spin is not limited. Adjust driving accordingly.

See *Traction Control System (TCS) on page 9-32* and *StabiliTrak® System on page 9-33*.

StabiliTrak® OFF Light



This light comes on when the StabiliTrak system is turned off. If the Traction Control System (TCS) is off, wheel spin is not limited. If the StabiliTrak system is off, the system does not assist in controlling the vehicle. Turn on the TCS and the StabiliTrak system and the warning light turns off.

Check the DIC for applicable messages. See *Ride Control System Messages on page 5-28* for more information.

See *Traction Control System (TCS) on page 9-32* and *StabiliTrak® System on page 9-33* for more information.

Traction Control System (TCS)/StabiliTrak® Light



The StabiliTrak or Traction Control System (TCS) indicator/warning light comes on briefly when the engine is started.

If the light does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light is on and not flashing, the TCS, and potentially the StabiliTrak system have been disabled. A DIC message may display. Check the DIC messages to determine which feature(s) is no longer functioning and whether the vehicle requires service.

If the indicator/warning light is on and flashing, the TCS and/or the StabiliTrak system is actively working.

See *StabiliTrak® System on page 9-33* and *Traction Control System (TCS) on page 9-32*.

Information Provided by: DEALER E-PROCESS

Tire Pressure Light



For vehicles with the Tire Pressure Monitor System (TPMS), this light comes on briefly when the engine is started. It provides information about tire pressures and the TPMS.

When the Light Is On Steady

This indicates that one or more of the tires are significantly underinflated.

A Driver Information Center (DIC) tire pressure message may also display. See *Tire Messages on page 5-30*. Stop as soon as possible, and inflate the tires to the pressure value shown on the Tire and Loading Information label. See *Tire Pressure on page 10-45*.

When the Light Flashes First and Then Is On Steady

If the light flashes for about a minute and then stays on, there may be a problem with the TPMS. If the problem is not corrected, the light will come on at every ignition cycle. See *Tire Pressure Monitor Operation on page 10-47*.

Engine Oil Pressure Light

Notice: **Lack of proper engine oil maintenance can damage the engine. Driving with the engine oil low can also damage the engine. The repairs would not be covered by the vehicle warranty. Check the oil level as soon as possible. Add oil if required, but if the oil level is within the operating range and the oil pressure is still low, have the vehicle serviced. Always follow the maintenance schedule for changing engine oil.**



The oil pressure light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer.

If the light comes on and stays on, it means that oil is not flowing through the engine properly. The vehicle could be low on oil and might have some other system problem. See your dealer.

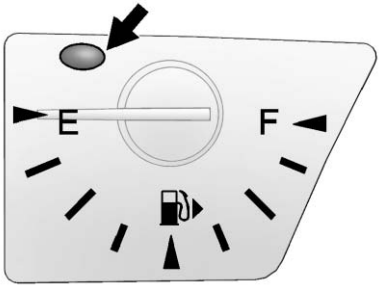
Information Provided by: DEALER E-PROCESS

Fuel Economy Light

eco

For vehicles with the fuel economy mode light, it comes on when the eco (economy) switch, located on the center console near the shifter, is pressed. For vehicles with a Driver Information Center (DIC) an ECO MODE ON message displays. See *Fuel System Messages on page 5-27* for more information. Press the switch again to turn off the light and exit the fuel saver mode.

Low Fuel Warning Light



English Shown, Metric Similar

This light comes on for a few seconds when the ignition is turned on as a check to indicate it is working. If it does not come on, have it fixed.

The low fuel warning light is a circle located on the fuel gauge. This light comes on and a chime sounds periodically when the vehicle is low on fuel. The light goes off when fuel is added to the fuel tank.

Information Provided by:
DEALER E-PROCESS

For vehicles with a Driver Information Center (DIC), see *Fuel System Messages on page 5-27* for more information.

Security Light



The immobilizer light should come on briefly as the engine is started. If it does not come on, have the vehicle serviced by your dealer. If the system is working normally, the indicator light turns off.

If the light stays on and the engine does not start, there could be a problem with the theft-deterrent system. See *Immobilizer Operation on page 2-13*.

High-Beam On Light



The high-beam on light comes on when the high-beam headlamps are in use.

See *Headlamp High/Low-Beam Changer on page 6-1* for more information.

Front Fog Lamp Light



The front fog lamp light comes on when the fog lamps are in use.

The light goes out when the fog lamps are turned off. See *Fog Lamps on page 6-4*.

Lamps On Reminder



For vehicles with the lamps on reminder light, it comes on when the lights are in use.

Cruise Control Light



For vehicles with cruise control, the cruise control light is white when the cruise control is on and ready, and turns green when the cruise control is set and active.

The light turns off when the cruise control is turned off. See *Cruise Control on page 9-35*.

Information Provided by:
DEALER E-PROCESS

Information Displays

Driver Information Center (DIC)

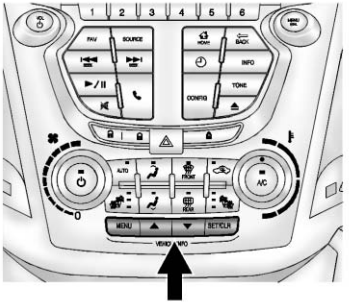
The vehicle may have a Driver Information Center (DIC). It displays information about the vehicle and warning messages if there is a system problem detected. DIC messages display in the center of the instrument panel cluster. See *Vehicle Messages on page 5-24* for more information.

The vehicle may also have features that can be customized through the controls on the radio. See *Vehicle Personalization on page 5-31* for more information.

DIC Operation and Displays

Use the DIC buttons located in the center of the instrument panel to access different displays. The DIC displays trip, fuel, vehicle system information, and warning messages. It also shows the shift lever position, the odometer, and the direction the vehicle is driving.

DIC Buttons



MENU: Press this button to get to the Trip/Fuel Menu and the Vehicle Information Menu.

▲ or ▼: Use these buttons to scroll through the items in each menu. A small marker will move along the page as you scroll through the items. This shows where each page is in the menu.

SET/CLR (Set/Clear): Use this button to set or clear the menu item when it is displayed.

Trip/Fuel Menu Items

Press the MENU button until Trip/Fuel Information Menu is displayed. Then press ▼ to scroll through the following menu items:

- Digital Speedometer
- Trip 1
- Trip 2
- Fuel Range
- Average Fuel Economy
- Best Average Fuel Economy
- Average Vehicle Speed
- Timer
- Navigation
- Blank Display

Information Provided by:
DEALER e-PROCESS

Digital Speedometer

The speedometer shows how fast the vehicle is moving in either kilometers per hour (km/h) or miles per hour (mph). The speedometer cannot be reset.

Trip 1 and Trip 2

This display shows the current distance traveled, in either kilometers (km) or miles (mi), since the last reset for the trip odometer. The trip odometer can be reset to zero by pressing SET/CLR while the trip odometer display is showing.

Fuel Range

This display shows the approximate distance the vehicle can be driven without refueling. The fuel range estimate is based on an average of the vehicle's fuel economy over recent driving history and the amount of fuel remaining in the fuel tank. Fuel range cannot be reset.

Average Fuel Economy

This display shows the approximate average liters per 100 kilometers (L/100 km) or miles per gallon (mpg). This number is calculated based on the number of L/100 km (mpg) recorded since the last time this menu item was reset. The fuel economy can be reset by pressing SET/CLR while the Average Fuel Economy display is showing. The display may not reset to zero.

Best Average Fuel Economy

The right hand side displays the best average fuel economy (AFE) that is achieved for a selected distance. The left hand side displays a running average of fuel economy for the most recently traveled selected distance. The center of the Best AFE menu includes a digital readout and bar graph to show the instantaneous fuel economy. Quickly press the SET/CLR button to display a page for selecting one of the distance options. Move the up/down arrow to choose the selection, and SET/CLR to change the setting.

When viewing best AFE, a several second press and hold of SET/CLR will reset the best value. The best value will show “- - -” until the selected distance has been traveled.

The display provides feedback on how current driving behavior in the bar graph affects the running average in the left display and how well recent driving compares to the best that has been achieved.

Average Vehicle Speed

This display shows the average speed of the vehicle in kilometers per hour (km/h) or miles per hour (mph). This average is calculated based on the various vehicle speeds recorded since the last reset of this value. The average speed can be reset by pressing SET/CLR while the Average Vehicle Speed display is showing.

DEALER E-PROCESS

Timer

This display can be used as a timer. To start the timer, press SET/CLR while Timer is displayed. The display will show the amount of time that has passed since the timer was last reset, not including time the ignition is off. Time will continue to be counted as long as the ignition is on, even if another display is being shown on the DIC. The timer will record up to 99 hours, 59 minutes and 59 seconds (99:59:59) after which the display will return to zero. To stop the timer, press SET/CLR briefly while Timer is displayed. To reset the timer to zero, press and hold SET/CLR.

Navigation

This display is used for the OnStar or Navigation System Turn-by-Turn guidance. See *OnStar Overview on page 14-1* or the Navigation manual, if the vehicle has navigation, for more information.

Blank Display

This display shows no information.

Vehicle Information Menu Items

Press the MENU button until Vehicle Information Menu is displayed. Then press ▼ to scroll through the following menu items:

- Unit
- Tire Pressure
- Remaining Oil Life
- Blank Display

Unit

Press SET/CLR to enter the unit menu. Then press ▲ or ▼ to switch between METRIC or US when the Unit display is active. Press SET/CLR to confirm the setting. This will change the displays on the cluster and DIC to either metric or English (US) measurements.

Information Provided by: DEALER E-PROCESS

Tire Pressure

The display will show a vehicle with the approximate pressures of all four tires. Tire pressure is displayed in either kilopascal (kPa) or in pounds per square inch (psi).

See *Tire Pressure Monitor System on page 10-46* and *Tire Pressure Monitor Operation on page 10-47* for more information.

Remaining Oil Life

This display shows an estimate of the oil's remaining useful life. If REMAINING OIL LIFE 99% is displayed, that means 99% of the current oil life remains.

When the remaining oil life is low, the CHANGE ENGINE OIL SOON message will appear on the display. See *Engine Oil Messages on page 5-26*. The oil should be changed as soon as possible. See *Engine Oil on page 10-8*. In addition to the engine oil life system monitoring the oil life, additional maintenance is recommended in the

Maintenance Schedule in this manual. See *Maintenance Schedule on page 11-3* for more information.

Remember, the Oil Life display must be reset after each oil change. It will not reset itself. Also, be careful not to reset the Oil Life display accidentally at any time other than when the oil has just been changed. It cannot be reset accurately until the next oil change. To reset the engine oil life system, press SET/CLR while the Oil Life display is active. The display will ask for confirmation of a reset. Press ▲ or ▼ to select Yes or No. Then press SET/CLR to confirm the selection. See *Engine Oil Life System on page 10-11*.

Blank Display

This display shows no information.

Compass

The vehicle may have a compass in the Driver Information Center (DIC). See *Compass on page 5-5*.

Vehicle Messages

Messages are displayed on the DIC to notify the driver that the status of the vehicle has changed and that some action may be needed by the driver to correct the condition. Multiple messages may appear one after another.

Some messages may not require immediate action, but you can press SET/CLR to acknowledge that you received the messages and to clear them from the display. Some messages cannot be cleared from the DIC display because they are more urgent. These messages require action before they can be cleared. You should take any messages that appear on the display seriously and remember that clearing the messages will only make the messages disappear, not correct the problem. You will find the possible messages that can be displayed and some information about them grouped by subject in the following information.

DEALER PROCESS

Battery Voltage and Charging Messages

BATTERY SAVER ACTIVE

This message displays when the vehicle has detected that the battery voltage is dropping beyond a reasonable point. The battery saver system starts reducing features of the vehicle that may be noticed. At the point that features are disabled, this message displays. Turn off unnecessary accessories to allow the battery to recharge.

LOW BATTERY

This message is displayed when the battery voltage is low. See *Battery on page 10-23*.

SERVICE BATTERY CHARGING SYSTEM

This message is displayed when there is a fault in the battery charging system. Take the vehicle to your dealer for service.

Brake System Messages

BRAKE FLUID LOW

This message is displayed when the brake fluid level is low; see *Brake Fluid on page 10-22*.

RELEASE PARKING BRAKE

This message is displayed as a reminder that the parking brake is on. Release it before you attempt to drive.

Compass Messages

CAL

This message is displayed when the compass needs to be calibrated. See *Compass on page 5-5*.

– –

Dashes will be displayed if the compass needs service. See your dealer for service.

Cruise Control Messages

APPLY BRAKE BEFORE CRUISE

If this message displays when attempting to activate cruise control, apply the brake pedal and try again.

CRUISE SET TO XXX

This message displays when the cruise control is set and shows the speed it was set to. See *Cruise Control on page 9-35*.

Door Ajar Messages

DOOR OPEN

A door open symbol will be displayed on the DIC showing which door is open. If the vehicle has been shifted out of P (Park), a DOOR OPEN message will also be displayed. Close the door completely.

MANUALLY CLOSE THE POWER LIFTGATE

This message will display if the power liftgate encounters multiple obstacles on the same power cycle. After removing the obstructions, the liftgate will resume normal power operation.

REAR ACCESS OPEN

This message will display along with a symbol when the liftgate is open. Close the liftgate completely.

Engine Cooling System Messages

A/C OFF DUE TO HIGH ENGINE TEMP

This message displays when the engine coolant becomes hotter than the normal operating temperature. To avoid added strain on a hot engine, the air conditioning compressor automatically turns off.

Information Provided by: DEALER E-PROCESS

When the coolant temperature returns to normal, the air conditioning compressor turns back on. The vehicle can continue to be driven.

If this message continues to appear, have the system repaired by your dealer as soon as possible to avoid damage to the engine.

COOLANT LEVEL LOW ADD COOLANT

This message will display if the coolant is low. See *Engine Coolant on page 10-15*.

ENGINE OVERHEATED — IDLE ENGINE

This message displays when the engine coolant temperature is too hot. Stop and allow the vehicle to idle until it cools down.

ENGINE OVERHEATED — STOP ENGINE

This message displays and a continuous chime sounds if the engine cooling system reaches unsafe temperatures for operation. Stop and turn off the vehicle as soon as it is safe to do so to avoid severe damage. This message clears when the engine has cooled to a safe operating temperature.

HIGH COOLANT TEMPERATURE

This message displays if the coolant temperature is hot. See *Engine Overheating on page 10-18*.

Engine Oil Messages

CHANGE ENGINE OIL SOON

This message displays when the engine oil needs to be changed. When you change the engine oil, be sure to reset the Oil Life System. See *Engine Oil Life System on page 10-11*, *Driver Information Center (DIC) on page 5-21*, *Engine Oil on page 10-8*, and *Maintenance Schedule on page 11-3*.

Information Provided by: DEALER e-PROCESS

ENGINE OIL HOT, IDLE ENGINE

This message displays when the engine oil temperature is too hot. Stop and allow the vehicle to idle until it cools down.

ENGINE OIL LOW — ADD OIL

On some vehicles, this message displays when the engine oil level may be too low. Check the oil level before filling to the recommended level. If the oil is not low and this message remains on, take the vehicle to your dealer for service. See *Engine Oil on page 10-8*.

OIL PRESSURE LOW — STOP ENGINE

This message displays if low oil pressure levels occur. Stop the vehicle as soon as safely possible and do not operate it until the cause of the low oil pressure has been corrected. Check the oil as soon as possible and have the vehicle serviced by your dealer.

Engine Power Messages

ENGINE POWER IS REDUCED

This message displays when the vehicle's engine power is reduced. Reduced engine power can affect the vehicle's ability to accelerate. If this message is on, but there is no reduction in performance, proceed to your destination. The performance may be reduced the next time the vehicle is driven. The vehicle may be driven at a reduced speed while this message is on, but maximum acceleration and speed may be reduced. Anytime this message stays on, the vehicle should be taken to your dealer for service as soon as possible.

Fuel System Messages

ECO MODE ON

On some models, this message displays when the fuel economy mode has been turned on by pressing the eco button near the shift lever. See *Fuel Economy Mode on page 9-29* for more information.

FUEL LEVEL LOW

This message displays when the vehicle is low on fuel. Refuel as soon as possible.

TIGHTEN GAS CAP

This message displays when the fuel cap is not on tight. Tighten the fuel cap.

Key and Lock Messages

REPLACE BATTERY IN REMOTE KEY

This message displays when the battery in the Remote Keyless Entry (RKE) transmitter needs to be replaced.

Object Detection System Messages

FORWARD COLLISION ALERT OFF

If your vehicle has the Forward Collision Alert (FCA) system, this message may display if the FCA system cannot activate due to a temporary condition. See *Forward Collision Alert (FCA) System on page 9-37*.

FRONT CAMERA BLOCKED, CLEAN WINDSHIELD

This message displays when the Lane Departure Warning (LDW) and Forward Collision Alert (FCA) systems are disabled because the camera view is blocked and cannot operate properly. It may also activate during heavy rain or due to road spray. To clean the system, clean the outside of the windshield area in front of the LDW/FCA camera sensor.

Information Provided by: DEALER E-PROCESS

LANE DEPARTURE SYSTEM UNAVAILABLE

If your vehicle has the Lane Departure Warning (LDW) system, this message may display if the LDW system cannot activate due to a temporary condition. See *Lane Departure Warning (LDW) on page 9-46* for more information.

PARK ASSIST OFF

This message displays when the park assist system has been turned off or when there is a temporary condition causing the system to be disabled. See *Ultrasonic Parking Assist on page 9-39*.

SERVICE BLIND ZONE ALERT SYSTEM

If this message appears, both SBZA displays will remain on indicating there is a problem with the SBZA system. If these displays remain on after continued driving, the system needs service. Take the vehicle to your dealer.

SERVICE FRONT CAMERA

This message displays when the Lane Departure Warning (LDW) and Forward Collision Alert (FCA) systems are disabled and need service. See your dealer.

SERVICE PARK ASSIST

This message displays if there is a problem with the Ultrasonic Rear Parking Assist (URPA) system. Do not use this system to help you park. See *Ultrasonic Parking Assist on page 9-39* for more information.

SIDE BLIND ZONE ALERT SYSTEM OFF

This message indicates that the driver has turned the system off.

SIDE BLIND ZONE SYS. UNAVAILABLE

This message indicates that the SBZA system is disabled because the sensor is blocked and cannot detect vehicles in the blind zone. The sensor may be blocked by mud, dirt, snow, ice, or slush. This message may also activate during heavy rain or due to road spray. The vehicle does not need service. For cleaning, see *Exterior Care on page 10-73*.

Information Provided by: DEALER E-PROCESS

Ride Control System Messages

ALL WHEEL DRIVE OFF

If your vehicle has the All-Wheel Drive (AWD) system, this message displays when the rear drive system is overheating. This message turns off when the rear drive system cools down. If the warning message stays on for a while, you need to reset the warning message. To reset the warning message, turn the ignition off and then back on again. If the message stays on, see your dealer right away. See *All-Wheel Drive on page 9-29* for more information.

SERVICE ALL WHEEL DRIVE

If your vehicle has the All-Wheel Drive (AWD) system, this message displays if a problem occurs with this system. If this message appears, stop as soon as possible and turn off the vehicle. Restart the vehicle and check for the message on the DIC display. If the message is still displayed or appears again when you begin driving, the AWD system needs service. See your dealer.

SERVICE TRACTION CONTROL

This message displays when there is a problem with the Traction Control System (TCS). See *Traction Control System (TCS) on page 9-32*.

SERVICE STABILITRAK

This message displays if there is a problem with the StabiliTrak system. *StabiliTrak® System on page 9-33*.

STABILITRAK OFF

This message displays when the StabiliTrak system is turned off. See *StabiliTrak® System on page 9-33* for more information.

TRACTION CONTROL OFF

This message displays when the Traction Control System (TCS) is turned off. Adjust your driving accordingly.

TRACTION CONTROL ON

This message displays when the Traction Control System (TCS) is first turned on. See *Traction Control System (TCS) on page 9-32* for more information.

Airbag System Messages

SERVICE AIRBAG

This message displays if there is a problem with the airbag system. Take the vehicle to your dealer for service.

Information Provided by: DEALER E-PROCESS

Security Messages

THEFT ATTEMPTED

This message displays if the vehicle detects a tamper condition.

Service Vehicle Messages

SERVICE AC SYSTEM

This message is displayed if there is a problem with the air conditioning system. Take the vehicle to your dealer for service.

SERVICE POWER STEERING

This message is displayed if there is a problem with the power steering system and a chime may sound. Take the vehicle to your dealer for service.

SERVICE VEHICLE SOON

This message is displayed if there is a problem with the vehicle. Take the vehicle to your dealer for service.

Tire Messages

SERVICE TIRE MONITOR SYSTEM

This message displays if there is a problem with the Tire Pressure Monitor System (TPMS). See *Tire Pressure Monitor Operation on page 10-47*.

TIRE LEARNING ACTIVE

This message displays when the system is learning new tires. See *Tire Pressure Monitor Operation on page 10-47*.

TIRE LOW ADD AIR TO TIRE

This message displays when the pressure in one or more of the tires is low.

This message also displays LEFT FRONT, RIGHT FRONT, LEFT REAR, or RIGHT REAR to indicate the location of the low tire.

The low tire pressure warning light will also come on. See *Tire Pressure Light on page 5-18*.

If a tire pressure message appears on the DIC, stop as soon as you can. Inflate the tires by adding air until the tire pressure is equal to the values shown on the Tire and Loading Information label. See *Tires on page 10-38*, *Vehicle Load Limits on page 9-14*, and *Tire Pressure on page 10-45*.

You can receive more than one tire pressure message at a time. The DIC also shows the tire pressure values. See *Driver Information Center (DIC) on page 5-21*.

Transmission Messages

SERVICE TRANSMISSION

This message displays if there is a problem with the transmission. See your dealer.

SHIFT TO PARK

This message displays when the transmission needs to be shifted to P (Park). This may appear when attempting to remove the key from the ignition or from the vehicle if the vehicle is not in P (Park).

TRANSMISSION HOT — IDLE ENGINE

This message displays and a chime sounds if the transmission fluid in the vehicle gets hot. Driving with the transmission fluid temperature high can cause damage to the vehicle. Stop the vehicle and let it idle to allow the transmission to cool. This message clears when the fluid temperature reaches a safe level.

Information Provided by: DEALER E-PROCESS

Vehicle Reminder Messages

ICE POSSIBLE DRIVE WITH CARE

This message is displayed when ice conditions are possible.

TURN WIPER CONTROL TO INTERMITTENT FIRST

This message is displayed when attempting to adjust the intermittent wiper speed without intermittent selected on the wiper control. See *Windshield Wiper/Washer on page 5-3*.

Vehicle Personalization

The audio system controls are used to access the personalization menus for customizing vehicle features.

CONFIG (Configuration): Press to access the Configuration Settings Menu.

MENU/SEL Knob: Press the center of this knob to enter the menus and select menu items. Turn the knob to scroll through the menus.

⇦ **BACK:** Press to exit or move backwards in a menu.

Entering the Personalization Menus

1. Turn the infotainment system on and press the CONFIG button to access the Configuration Settings menu.
2. Turn the MENU/SEL knob to highlight Vehicle Settings.
3. Press the center of the MENU/SEL knob to select the Vehicle Settings menu.

The following list of menu items will be available:

- Climate and Air Quality
- Comfort and Convenience
- Collision/Detection Systems
- Languages
- Lighting
- Power Door Locks
- Remote Lock/Unlock/Start
- Return to Factory Settings

Turn the MENU/SEL knob to highlight the menu. Press the knob to select it. Each of the menus is detailed in the following information. All of the menus may not be available. Only those tied to the features on your vehicle will be shown.

Information Provided By DEALER E-PROCESS

Climate and Air Quality

Select the Climate and Air Quality menu and the following will be displayed:

- Auto Fan Speed
- Air Conditioning Mode
- Remote Start Auto Heat Seats
- Auto Defog
- Auto Rear Defog

Auto Fan Speed

This selection is available on vehicles with the Automatic Climate Control System. Choose from the following blower speed settings:

High: Increased speed.

Low: Reduced speed.

Normal: Moderate speed.

Press the MENU/SEL knob when Auto Fan Speed is highlighted. Turn the knob to highlight “High,” “Normal,” or “Low.” Press the knob to confirm the selection and go back to the last menu.

Air Conditioning Mode

This will allow you to select whether or not the air conditioning comes on automatically the next time the vehicle is started. “On” means that the air conditioning will be on at start up, regardless of whether it was on or off the last time the vehicle was turned off. “Off” means the air conditioning will be off at the next start up, regardless of whether it was on or off the last time the vehicle was turned off. “Last Setting” means that when the vehicle is started, the air conditioning will resume whichever setting it was at the last time the vehicle was turned off.

Press the MENU/SEL knob when Air Conditioning Mode is highlighted. Turn the knob to highlight “On,” “Off,” or “Last Setting.” Press the knob to confirm the selection and go back to the last menu.

Information Provided by: DEALER E-PROCESS

Remote Start Auto Heat Seats

When on, this feature will turn the heated seats on when using remote start on cold days.

Press the MENU/SEL knob when “Remote Start Auto Heat Seats” is highlighted to toggle between “On” or “Off.” Press ⇦ BACK to confirm the selection and go back to the last menu.

Auto Defog

When turned on and high humidity is detected, the climate control system may adjust to outside air supply and turn on the air conditioner or the heater. The fan speed may slightly increase to help prevent fogging. When high humidity is no longer detected, the system will return to its prior operation.

Press the MENU/SEL knob when “Auto Defog” is highlighted to toggle between “On” or “Off.” Press ⇦ BACK to confirm the selection and go back to the last menu.

Auto Rear Defog

When on, this feature turns on the rear defogger at vehicle start when the interior temperature is cold and fog is likely. The auto rear defog function can be disabled by pressing . When off, the feature can be turned on by pressing . See “Rear Window Defogger” under *Climate Control Systems on page 8-1* or *Automatic Climate Control System on page 8-3* for more information.

Press the MENU/SEL knob when “Auto Rear Defog” is highlighted to toggle between “On” or “Off.” Press ⇦ BACK to confirm the selection and go back to the last menu.

Comfort and Convenience

Select the Comfort and Convenience menu and the following will be displayed:

- Easy Exit Driver Seat
- Chime Volume
- Reverse Tilt Mirror

Easy Exit Driver Seat

When on, this feature will move the driver seat rearward upon turning the ignition off and the driver door opening. This may be performed to make it easier to exit the vehicle. See the “Easy Exit Driver Seat” information under *Power Seat Adjustment on page 3-4* for more information.

This allows you to turn the easy exit seat feature on or off.

Press the MENU/SEL knob when “Easy Exit Driver Seat” is highlighted. Turn the knob to select “On” or “Off.” Press the knob to confirm and go back to the last menu.

Chime Volume

This allows the selection of the chime volume level.

Press the MENU/SEL knob when “Chime Volume” is highlighted. Turn the knob to select “Normal” or “High.” Press the knob to confirm and go back to the last menu.

Reverse Tilt Mirror

When on, both the driver and passenger mirrors will tilt downward when vehicle is shifted to R (Reverse) to improve visibility of the ground near the rear wheels. They will return to their previous driving position when the vehicle is shifted out of R (Reverse), the ignition is turned to OFF, or the vehicle is left in reverse. See *Park Tilt Mirrors on page 2-15* for more information.

This allows you to turn the park tilt mirrors feature on or off.

Press the MENU/SEL knob when “Reverse Tilt Mirror” is highlighted. Turn the knob to select “On” or “Off.” Press the knob to confirm and go back to the last menu.

Collision/Detection Systems

Select the Collision/Detection Systems menu and the following will be displayed:

- Park Assist

DEALER EPROCESS

Park Assist

This allows the Ultrasonic Parking Assist feature to be turned on or off.

Press the MENU/SEL knob when "Park Assist" is highlighted. Turn the knob to select "On," "Off," or "Tow Bar." Press the knob to confirm and go back to the last menu.

See *Ultrasonic Parking Assist on page 9-39* for more information

Languages

Select the Languages menu and the following will be displayed:

- English
- French
- Spanish

Turn the MENU/SEL knob to select the language. Press the knob to confirm and go back to the last menu.

Lighting

Select the Lighting menu and the following will be displayed:

- Vehicle Locator Lights
- Exit Lighting

Vehicle Locator Lights

This allows the vehicle locator lights to be turned on or off.

Press the MENU/SEL knob when "Vehicle Locator Lights" is highlighted to toggle between "On" or "Off." Press ⇦ BACK to confirm the selection and go back to the last menu.

Exit Lighting

This allows the selection of how long the exterior lamps stay on when leaving the vehicle when it is dark outside.

Press the MENU/SEL knob when "Exit Lighting" is highlighted. Turn the knob to select "Off," "30 Seconds," "1 Minute," or "2 Minutes." Press the knob to confirm and go back to the last menu.

Information Provided by: DEALER e-PROCESS

Power Door Locks

Select Power Door Locks and the following will be displayed:

- Unlocked Door Anti Lock Out
- Auto Door Unlock
- Delayed Door Lock

Unlocked Door Anti Lock Out

When on, this feature will keep the driver door from locking when the door is open. If off is selected, the Delayed Door Lock menu will be available.

Press the MENU/SEL knob when "Unlocked Door Anti Lock Out" is highlighted to toggle between "On" or "Off." Press ⇦ BACK to confirm the selection and go back to the last menu.

Auto Door Unlock

This allows selection of which of the doors will automatically unlock when the vehicle is shifted into P (Park).

Press the MENU/SEL knob when “Auto Door Unlock” is highlighted. Turn the knob to select “All Doors,” “Driver Door,” or “Off.” Press the knob to confirm and go back to the last menu.

Delayed Door Lock

When on, this feature will delay the locking of the doors. If you want to override the delay you can press the power door lock on the instrument panel.

Press the MENU/SEL knob when “Delayed Door Lock” is highlighted. Turn the knob to select “On” or “Off.” Press the knob to confirm and go back to the last menu.

Remote Lock/Unlock/Start

Select Remote Lock/Unlock/Start and the following will be displayed:

- Remote Unlock Light Feedback
- Remote Lock Feedback
- Remote Door Unlock
- Memory Remote Recall

Remote Unlock Light Feedback

When on, the exterior lamps will flash when unlocking the vehicle with the RKE transmitter.

Press the MENU/SEL knob when “Remote Unlock Light Feedback” is highlighted. Turn the knob to select “Flash Lights” or “Off.” Press the knob to confirm and go back to the last menu.

Remote Lock Feedback

This allows selection of what type of feedback is given when unlocking the vehicle with the RKE transmitter.

Press the MENU/SEL knob when “Remote Lock Feedback” is highlighted. Turn the knob to select “Lights and Horn,” “Lights Only,” “Horn Only,” or “Off.” Press the knob to confirm and go back to the last menu.

Remote Door Unlock

This allows selection of which doors will unlock when pressing the unlock button on the RKE transmitter.

Press the MENU/SEL knob when “Remote Door Unlock” is highlighted. Turn the knob to select “All Doors” or “Driver Door.” Press the knob to confirm and go back to the last menu.

Memory Remote Recall

This allows the Memory Remote Recall feature to be turned on or off.

When on, this feature will recall the current driver's last seat, outside mirrors upon unlocking the driver door with the RKE, and opening that

Information Provided by: DEALER e-PROCESS

door. The current driver is identified when the RKE transmitter is used to unlock the driver door. See “Memory Remote Recall” under *Memory Seats on page 3-7* for more information.

Memory Remote Recall is when the memorized settings will be recalled as you unlock the vehicle.

Press the MENU/SEL knob when “Memory Remote Recall” is highlighted to toggle between “On” or “Off.” Press ⇦ BACK to confirm the selection and go back to the last menu.

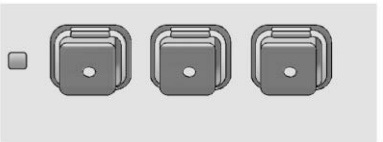
Return to Factory Settings

Select “Return to Factory Settings” to return all of the vehicle personalization to the default settings. Turn the knob to select “Yes” or “No.” Press the knob to confirm and go back to the last menu.

Universal Remote System

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

Universal Remote System Programming



If the vehicle has this feature, you will see these buttons with one indicator light next to them in the overhead console.

This system provides a way to replace up to three remote control transmitters used to activate devices such as garage door openers, security systems, and home automation devices.

Do not use the Universal Remote system with any garage door opener that does not have the stop and reverse feature. This includes any garage door opener model manufactured before April 1,1982.

Read the instructions completely before attempting to program the Universal Remote system. Because of the steps involved, it may be helpful to have another person available to assist with programming the Universal Remote system.

Keep the original hand-held transmitter for use in other vehicles as well as for future Universal Remote system programming. It is also recommended that upon the sale of the vehicle, the programmed Universal Remote system buttons be erased for security purposes. See “Erasing Universal Remote System Buttons” later in this section.

Information Provided by: DEALER E-PROCESS

When programming a garage door, park outside of the garage. Park directly in line with and facing the garage door opener motor-head or gate motor-head. Be sure that people and objects are clear of the garage door or gate being programmed.

It is recommended that a new battery be installed in the hand-held transmitter for quicker and more accurate transmission of the radio-frequency signal.

Programming the Universal Remote System

For questions or help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com.

Programming a garage door opener involves time-sensitive actions, so read the entire procedure before starting. Otherwise, the device will time out and the procedure will have to be repeated.

To program up to three devices:

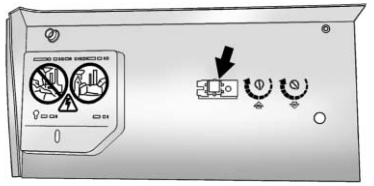
1. Hold the end of the hand-held transmitter about 3 to 8 cm (1 to 3 in) away from the Universal Remote system buttons while keeping the indicator light in view. The hand-held transmitter was supplied by the manufacturer of the garage door opener receiver (motor-head unit).
2. At the same time, press and hold both the hand-held transmitter button and one of the three Universal Remote system buttons to be used to operate the garage door. Do not release the Universal Remote system button or the hand-held transmitter button until the indicator light changes from a slowly to a rapidly flashing light. You now may release both buttons.

 Some entry gates and garage door openers may require substitution of Step 2 with the procedure noted in “Gate Operator and Canadian Programming” later in this section.
3. Press and hold for five seconds the newly trained Universal Remote system button (the button selected in Step 2) while observing the indicator light and garage door activation.
 - If the indicator light stays on continuously or the garage door starts to move when the Universal Remote system button is pressed and released, then the programming is complete. There is no need to continue programming Steps 4–6.

Information Provided by: DEALER E-PROCESS

- If the Universal Remote system indicator light blinks rapidly for two seconds, then turns to a constant light and the garage door does not move, continue with programming Steps 4–6.

 It may be helpful to have another person assist with the remaining Steps 4–6.



“Learn” or “Smart” Button

4. After Steps 1–3 have been completed, locate the “Learn” or “Smart” button inside the garage on the garage door opener receiver (motor-head unit). The name and color of the button may vary by manufacturer.
5. Firmly press and release the “Learn” or “Smart” button. After pressing this button, you will have 30 seconds to complete Step 6.
6. Immediately return to the vehicle. Firmly press and hold for two seconds the Universal Remote system button, selected in Step 2 to control the garage door, and then release it. If the garage door does not move or the lamp on the garage door opener receiver (motor-head unit) does not flash, press and hold the same button a second time for two seconds, then release it. Again, if the door does not move or the garage door lamp does not flash, press and hold the same button a third time for two seconds, then release.

The Universal Remote system should now activate the garage door.

Information Provided by: DEALER E-PROCESS

To program the remaining two Universal Remote system buttons, begin with Step 1 of “Programming the Universal Remote System.”

Gate Operator and Canadian Programming

If you have questions or need help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com.

Canadian radio-frequency laws require transmitter signals to time out or quit after several seconds of transmission. This may not be long enough for the Universal Remote system to pick up the signal during programming. Similarly, some U.S. gate operators are manufactured to time out in the same manner.

If you live in Canada, or you are having difficulty programming a gate operator or garage door opener by using the “Programming the Universal Remote System” procedures, regardless of where you live, replace Step 2 under “Programming the Universal Remote System” with the following:

Continue to press and hold the Universal Remote system button while you press and release every two seconds (cycle) the hand-held transmitter button until the frequency signal has been successfully accepted by the Universal Remote system. The Universal Remote system indicator light will flash slowly at first and then rapidly. Proceed with Step 3 under “Programming the Universal Remote System” to complete.

Universal Remote System Operation

Using the Universal Remote System

Press and hold the appropriate Universal Remote system button for at least half of a second. The indicator light will come on while the signal is being transmitted.

Erasing Universal Remote System Buttons

All programmed buttons should be erased when the vehicle is sold or the lease ends.

To erase all programmed buttons on the Universal Remote system device:

1. Press and hold down the two outside buttons until the indicator light begins to flash. This should take about 10 seconds.
2. Release both buttons.

Information Provided by: DEALER E-PROCESS

Reprogramming a Single Universal Remote System Button

To reprogram any of the three Universal Remote system buttons:

1. Press and hold the desired Universal Remote system button. Do not release the button.
2. The indicator light will begin to flash after 20 seconds. Without releasing the button, proceed with Step 1 under “Programming the Universal Remote System.”

If you have questions or need help programming the Universal Remote system, call 1-800-355-3515 or go to www.homelink.com. You may also call the customer assistance phone number under *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5*.

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Lighting

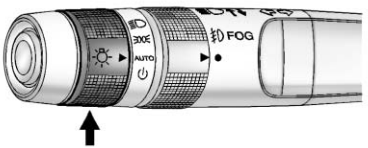
Exterior Lighting
Exterior Lamp Controls 6-1
Headlamp High/Low-Beam Changer 6-1
Flash-to-Pass 6-2
Daytime Running Lamps (DRL) 6-2
Automatic Headlamp System 6-2
Hazard Warning Flashers 6-3
Turn and Lane-Change Signals 6-3
Fog Lamps 6-4

Interior Lighting
Instrument Panel Illumination Control 6-4
Dome Lamps 6-4
Reading Lamps 6-5

Lighting Features
Entry Lighting 6-5
Battery Load Management 6-5

Exterior Lighting

Exterior Lamp Controls



The exterior lamp control is on the turn signal/lane change lever.

(Exterior Lamp Control): Operates the exterior lamps. Turn to one of the following positions:

(Off): Briefly turn to this position to turn the automatic light control off or on again.

AUTO (Automatic Headlamps): Turns the exterior lamps on and off automatically depending on the exterior light. The vehicle will default to the AUTO setting when it is first started.

(Parking Lamps): Turns on the parking lamps together with the following:

- Sidemarker Lamps
- Taillamps
- License Plate Lamps
- Instrument Panel Lights

(Headlamps): Turns on the headlamps, together with the previously listed lamps and lights.

Headlamp High/ Low-Beam Changer

Headlamp High/Low-Beam Changer: Push the turn signal/lane change lever away from you and release, to turn the high beams on. To return to low beams, push the lever again or pull it toward you and release.

Information Provided by: DEALER E-PROCESS



This indicator light turns on in the instrument panel cluster when the high-beam headlamps are on.

Flash-to-Pass

The flash-to-pass feature works with the low beams or Daytime Running Lamps (DRL) on or off.

To flash the high beams, pull the turn signal/lane change lever all the way toward you, then release it.

Daytime Running Lamps (DRL)

Daytime Running Lamps (DRL) system makes the low-beam headlamps come on at a reduced brightness in daylight when the following conditions are met:

- The ignition is on.
- The exterior lamp band is in the automatic position.
- The transmission is not in P (Park).
- The light sensor determines it is daytime.
- The parking brake is released.

Fully functional Daytime Running Lamps (DRL) are required on all vehicles first sold in Canada.

When the DRL are on the taillamps, sidemarker, instrument panel lights and other lamps will not be on. The instrument panel cluster will be lit.

When the exterior lamp band is turned to the headlamp position, the low-beam headlamps come on. The other lamps that come on with the headlamps will also come on.

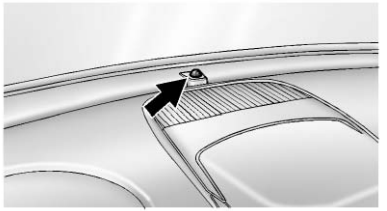
To idle your vehicle with the DRL off, move the shift lever to P (Park). The DRL will stay off until the shift lever is moved out of the P (Park) position.

Information Provided by: DEALER e-PROCESS

The regular headlamp system should be turned on when needed.

Automatic Headlamp System

When it is dark enough outside, the headlamps come on automatically.



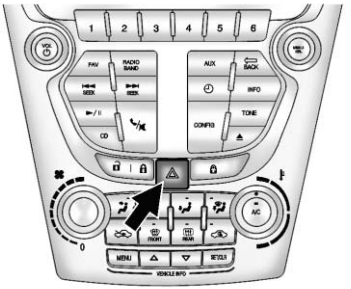
Do not cover the light sensor on top of the instrument panel or the headlamps will come on when they are not needed.

The system may also turn on the headlamps when driving through a parking garage or tunnel.

Lights On with Wipers

If the windshield wipers are activated in daylight with the engine on, and the exterior lamp control is in AUTO, the headlamps, parking lamps, and other exterior lamps come on. The transition time for the lamps coming on varies based on wiper speed. When the wipers are not operating, these lamps turn off. Move the exterior lamp control to OFF or to the Parking Lamp position to disable this feature.

Hazard Warning Flashers

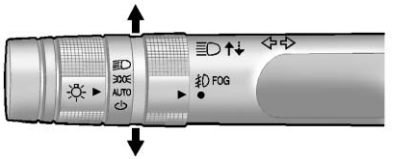


(Hazard Warning Flasher): Press this button, on the center of the instrument panel, to make the front and rear turn signal lamps flash on and off. This warns others that you are having trouble.

Press again to turn the flashers off.

Information Provided by:
DEALER E-PROCESS

Turn and Lane-Change Signals



An arrow on the instrument panel cluster will flash in the direction of the turn or lane change.

Move the lever all the way up or down to signal a turn.

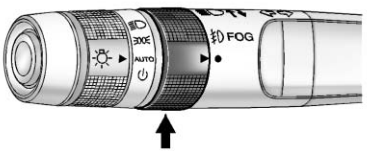
Raise or lower the lever until the arrow starts to flash to signal a lane change. Hold it there until the lane change is complete. If the lever is briefly pressed and released, the turn signal flashes three times.

The lever returns to its starting position when it is released.

If after signaling a turn or a lane change the arrows flash rapidly or do not come on, a signal bulb may be burned out.

Have the bulbs replaced. If the bulb is not burned out, check the fuse; see *Fuses on page 10-32* for more information.

Fog Lamps



The fog lamps control is located on the turn/lane change lever.

Use the fog lamps for better vision in foggy or misty conditions.

FOG (Fog Lamps): Turn the fog lamp band on the lever to and release it, to turn the fog lamps on or off. The band will return to its original position.

The parking lamps or low-beam headlamps must be on to use the fog lamps.

The fog lamps will go off whenever the high-beam headlamps are turned on. When the high-beam headlamps are turned off, the fog lamps will come on again.

Some localities have laws that require the headlamps to be on along with the fog lamps.

Interior Lighting

Instrument Panel Illumination Control

This control is located on the instrument panel, to the left of the steering column.

(Instrument Panel Brightness): Turn clockwise or counterclockwise to brighten or dim the lights.

Dome Lamps

There are front and rear dome lamps.

The dome lamp controls are located in the overhead console. To change the settings, press the following:

(Dome Lamp Override): Turns the lamps off, even when a door is open.

Information Provided by:
DEALER E-PROCESS

(Door): The lamps come on automatically when a door is opened.

(On): Turns the dome lamps on.

The dome lamps can also be turned on and off by pressing the buttons next to the lamps.

Reading Lamps

The reading lamps are located on the overhead console. These lamps come on automatically when any door is opened.

For manual operation, press the button next to each lamp to turn it on or off.

Lighting Features

Entry Lighting

The dome lamp, cargo lamp, and foot lamp inside the vehicle come on when any door is opened, if the dome lamp is in the door position. In addition, these lamps come on when the Remote Keyless Entry (RKE) unlock button is pressed. They stay on for 20 seconds or until a door is opened. After the door is opened and then closed, the light remains on for 20 seconds, or until the ignition is turned to ON/RUN.

Battery Load Management

The vehicle has Electric Power Management (EPM) that estimates the battery's temperature and state of charge. It then adjusts the voltage for best performance and extended life of the battery.

When the battery's state of charge is low, the voltage is raised slightly to quickly bring the charge back up. When the state of charge is high, the voltage is lowered slightly to prevent overcharging. If the vehicle has a voltmeter gauge or a voltage display on the Driver Information Center (DIC), you may see the voltage move up or down. This is normal. If there is a problem, an alert will be displayed.

Information Provided by: DEALER E-PROCESS

The battery can be discharged at idle if the electrical loads are very high. This is true for all vehicles. This is because the generator (alternator) may not be spinning fast enough at idle to produce all of the power needed for very high electrical loads.

A high electrical load occurs when several of the following are on, such as: headlamps, high beams, fog lamps, rear window defogger, climate control fan at high speed, heated seats, engine cooling fans, trailer loads, and loads plugged into accessory power outlets.

EPM works to prevent excessive discharge of the battery. It does this by balancing the generator's output and the vehicle's electrical needs. It can increase engine idle speed to generate more power whenever needed. It can temporarily reduce the power demands of some accessories.

Normally, these actions occur in steps or levels, without being noticeable. In rare cases at the highest levels of corrective action, this action may be noticeable to the driver. If so, a DIC message might be displayed and it is recommended that the driver reduce the electrical loads as much as possible. See *Battery Voltage and Charging Messages on page 5-24*.

Information Provided by:
DEALER E-PROCESS

Infotainment System

Introduction
Infotainment 7-1

Introduction

Infotainment

See the infotainment manual for information on the radio, audio players, phone, navigation system, and voice or speech recognition. It also includes information on settings and downloadable applications (if equipped).

Information Provided by:
DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Climate Controls

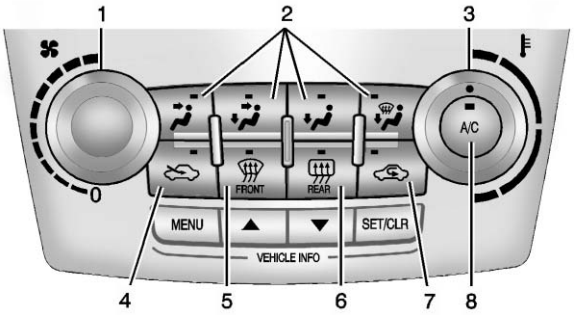
Climate Control Systems
Climate Control Systems 8-1
Automatic Climate Control System 8-3

Air Vents
Air Vents 8-6

Maintenance
Passenger Compartment Air Filter 8-6

Climate Control Systems

The vehicle's heating, cooling, defrosting, and ventilation can be controlled with this system.



1. Fan Control
2. Air Delivery Mode Controls
3. Temperature Control
4. Outside Air
5. Front Defrost
6. Rear Window Defogger
7. Recirculation
8. Air Conditioning

(Fan Control): Turn to increase or decrease the fan speed. Turn the knob completely to 0 to turn the fan off.

Temperature Control: Turn to increase or decrease the temperature.

Provided by: DEALER E-PROCESS

Air Delivery Mode Control: To change the current mode, select one of the following:

(Vent): Air is directed to the instrument panel outlets.

(Bi-Level): Air is directed to the instrument panel outlets and the floor outlets.

(Floor): Air is directed to the floor outlets.

(Defog): Clears the windows of fog or moisture. Air is directed to the windshield and floor outlets.

FRONT (Front Defrost): Clears the windshield of fog or frost more quickly. Air is directed to the windshield and side window outlets.

For best results, clear all snow and ice from the windshield before defrosting.

Do not drive the vehicle until all the windows are clear.

For vehicles with Fuel Economy Mode, the climate controls may take longer to heat or cool the cabin and the rear window defogger will turn off sooner, when this feature is in use. See *Fuel Economy Mode on page 9-29*.

Air Conditioning

A/C (Air Conditioning): Press to turn the air conditioning on or off. If the fan is turned off or the outside temperature falls below freezing, the air conditioning will not work.

(Recirculation): Press to turn on the recirculation. An indicator light comes on. Air is recirculated inside the vehicle. It helps to quickly cool the air inside the vehicle or prevent outside air and odors from entering. The air conditioning may come on under certain conditions.

To improve fuel efficiency and to cool the vehicle faster, recirculation may be automatically selected in warm weather. The recirculation light will not come on. To override this feature, select outside air.

Information Provided by: DEALER E-PROCESS

(Outside Air): Press to turn on the outside air. An indicator light comes on. Outside air is circulated throughout the vehicle.

Rear Window Defogger

REAR (Rear Defogger): Press to turn the rear window defogger on or off. The rear window defogger turns off after about 10 minutes. It can also be turned off by turning the ignition to ACC/ACCESSORY or LOCK/OFF. If turned on again, it runs for about five minutes before turning off.

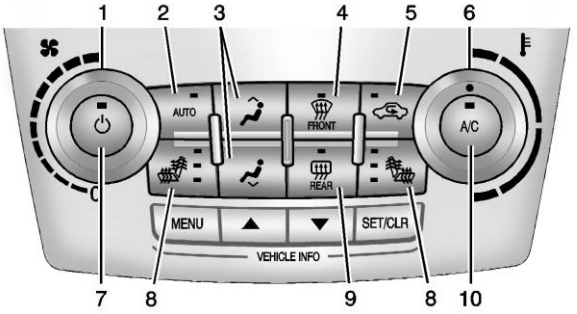
The ignition must be on to use the rear window defogger.

Do not drive the vehicle until all the windows are clear.

Notice: **Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the defogger grid lines in the rear glass. These actions may damage the rear defogger. Repairs would not be covered by your warranty.**

Automatic Climate Control System

The vehicle's heating, cooling, defrosting, and ventilation can be controlled with this system.



1. Fan Control
2. AUTO (Automatic Operation)
3. Air Delivery Mode Controls
4. Front Defrost
5. Recirculation
6. Temperature Control
7. Power
8. Driver and Passenger Heated Seats
9. Rear Window Defogger
10. Air Conditioning

Automatic Operation

The system automatically controls the fan speed, air delivery, air conditioning, and recirculation to heat or cool the vehicle to the selected temperature.

When the AUTO indicator light is on, the system is in full automatic operation.

To place the system in automatic mode:

1. Press AUTO.
2. Set the temperature. Allow the system time to stabilize. Then adjust the temperature as needed.

 To improve fuel efficiency and to cool the vehicle faster, recirculation may be automatically selected in warm weather. The recirculation light will not come on. Press the to select recirculation; press it again to select outside air.

Information Provided by: DEALER E-PROCESS

Manual Operation

(Power): Press to turn the climate control system on or off.

(Fan Control): Turn to increase or decrease the fan speed. Adjusting the fan speed while in automatic mode places the fan under manual control. The AUTO indicator light turns off. The air delivery mode remains in automatic control.

Temperature Control: Turn to increase or decrease the temperature inside the vehicle.

/ (Air Delivery Mode Control): Press mode up or mode down to cycle through the different air delivery modes. The current mode is shown on the display.

Select from the following:

(Vent): Air is directed to the instrument panel outlets.

(Bi-Level): Air is directed to the instrument panel outlets and the floor outlets.

(Floor): Air is directed to the floor outlets.

(Defog): Clears the windows of fog or moisture. Air is directed to the windshield and floor outlets.

FRONT (Front Defrost): Clears the windshield of fog or frost more quickly. Air is directed to the windshield and side window outlets. Selecting defrost disables the automatic mode.

For best results, clear all snow and ice from the windshield before defrosting.

Do not drive the vehicle until all the windows are clear.

For vehicles with Fuel Economy Mode, the climate controls may take longer to heat or cool the cabin and the rear window defogger will turn off sooner, when this feature is in use. See *Fuel Economy Mode on page 9-29*.

Air Conditioning

A/C (Air Conditioning): Press to turn the air conditioning on or off. If the fan is turned off or the outside temperature falls below freezing, the air conditioning will not work. When in AUTO, the air conditioning will come on automatically as needed.

(Recirculation): Press to turn on the recirculation. Press to alternate between recirculation and outside air, if the vehicle does not have a separate outside air button.

The indicator light turns on when recirculation is selected. Air is recirculated inside the vehicle. It helps quickly cool the air inside the vehicle or prevent outside air and odors from entering.

(Outside Air, If Equipped): Press to turn on the outside air. An indicator light comes on. Outside air is circulated throughout the vehicle.

Information Provided by: DEALER E-PROCESS

Rear Window Defogger

REAR (Rear Defogger): Press to turn the rear window defogger on or off. The rear window defogger turns off after about 10 minutes. It can also be turned off by putting the ignition in ACC/ACCESSORY or LOCK/OFF. If turned on again, it runs for about five minutes before turning off.

The ignition must be on to use the rear window defogger.

Do not drive the vehicle until all the windows are clear.

Notice: **Do not use a razor blade or sharp object to clear the inside rear window. Do not adhere anything to the defogger grid lines in the rear glass. These actions may damage the rear defogger. Repairs would not be covered by your warranty.**

/ (Driver and Passenger Heated Seats): For vehicles with heated seats, see *Heated Front Seats on page 3-8*.

Remote Start Climate Control Operation: For vehicles with the remote start feature, the climate control system may run when the vehicle is started remotely. The system uses the driver's previous settings to heat or cool the inside of the vehicle. The rear defog may come on during remote start based on cold ambient conditions. The rear defog indicator light does not come on during a remote start. If the vehicle has heated front seats, they may come on during a remote start. See *Remote Vehicle Start on page 2-4* and *Heated Front Seats on page 3-8*.

Sensors

The solar sensor, located on top of the instrument panel near the windshield, monitors the solar heat.

The climate control system uses the information to adjust the temperature, fan speed, recirculation, and air delivery mode.

Do not cover the solar sensor or the system will not work properly.

Information Provided by: DEALER E-PROCESS

Air Vents

Center Air Vents

Use the louvers located on the air vents to change the direction of the airflow. Use the thumbwheels to open or close off the airflow.

Side Air Vents

Use the louvers located on the air vents to change the direction of the airflow or to open or close off the airflow.

Operation Tips

- Clear away any ice, snow, or leaves from air inlets at the base of the windshield that could block the flow of air into the vehicle.
- Keep the path under the front seats clear of objects to help circulate the air inside of the vehicle more effectively.
- Use of non-GM approved hood deflectors can adversely affect the performance of the system. Check with your dealer before adding equipment to the outside of the vehicle.
- Do not attach any devices to the air vent slats. This restricts airflow and may cause damage to the air vents.

Maintenance

Passenger Compartment Air Filter

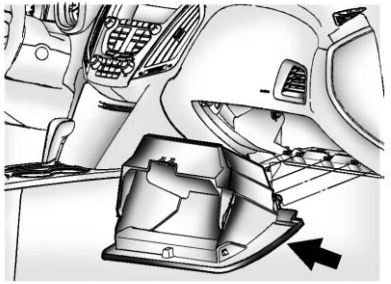
The filter removes dust, pollen, and other airborne irritants from outside air that is pulled into the vehicle.

The filter should be replaced as part of routine scheduled maintenance. See *Maintenance Schedule on page 11-3* for replacement intervals. To find out what type of filter to use, see *Maintenance Replacement Parts on page 11-13*.

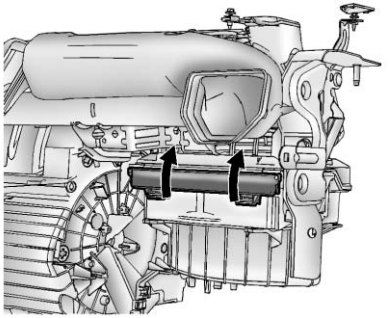
The passenger compartment air filter can be accessed by removing the entire glove box.

1. Open the glove box completely and locate the stop tab on top of the glove box door.

Information Provided by: DEALER E-PROCESS



2. Push the stop tab upwards until the stop tab is under the instrument panel assembly and the glove box is released.
3. Unsnap the tabs beneath the glove box that connects it to the bottom of the instrument panel assembly.
4. Remove the glove box.
5. Locate the service door for the passenger compartment air filter.
6. Push the two tabs upwards and release the latches holding the service door. Lift the service door.



7. Remove the old air filter.
8. Install the new air filter.
9. Close the service door and latches.
10. Re-install the glove box.

See your dealer if additional assistance is needed.

Information Provided by:
DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Driving and Operating

Driving Information
Distracted Driving 9-2
Defensive Driving 9-3
Drunk Driving 9-3
Control of a Vehicle 9-3
Braking 9-3
Steering 9-4
Off-Road Recovery 9-5
Loss of Control 9-5
Off-Road Driving 9-6
Driving on Wet Roads 9-10
Highway Hypnosis 9-11
Hill and Mountain Roads 9-11
Winter Driving 9-12
If the Vehicle Is Stuck 9-14
Vehicle Load Limits 9-14

Starting and Operating
New Vehicle Break-In 9-19
Ignition Positions 9-19
Starting the Engine 9-21
Retained Accessory Power (RAP) 9-22
Engine Coolant Heater 9-23
Shifting Into Park 9-24
Shifting out of Park 9-25
Parking over Things That Burn 9-25

Engine Exhaust
Engine Exhaust 9-25
Running the Vehicle While Parked 9-26

Automatic Transmission
Automatic Transmission 9-26
Manual Mode 9-28
Fuel Economy Mode 9-29

Drive Systems
All-Wheel Drive 9-29

Brakes
Antilock Brake System (ABS) 9-30
Parking Brake 9-31
Brake Assist 9-31
Hill Start Assist (HSA) 9-32

Ride Control Systems
Traction Control System (TCS) 9-32
StabiliTrak® System 9-33

Cruise Control
Cruise Control 9-35

Object Detection Systems
Forward Collision Alert (FCA) System 9-37
Ultrasonic Parking Assist 9-39
Side Blind Zone Alert (SBZA) 9-41
Rear Vision Camera (RVC) 9-43
Lane Departure Warning (LDW) 9-46

Fuel
Fuel 9-48
Recommended Fuel 9-48
Gasoline Specifications 9-48
California Fuel Requirements 9-48
Fuels in Foreign Countries . . . 9-49
Fuel Additives 9-49
Fuel E85 (85% Ethanol) 9-50
Filling the Tank 9-51
Filling a Portable Fuel Container 9-52

Information Provided by: DEALER E-PROCESS

Towing
General Towing Information 9-53
Driving Characteristics and Towing Tips 9-53
Trailer Towing 9-56
Towing Equipment 9-58
Trailer Sway Control (TSC) 9-58

Conversions and Add-Ons
Add-On Electrical Equipment 9-59

Driving Information

Distracted Driving

Distraction comes in many forms and can take your focus from the task of driving. Exercise good judgment and do not let other activities divert your attention away from the road. Many local governments have enacted laws regarding driver distraction. Become familiar with the local laws in your area.

To avoid distracted driving, always keep your eyes on the road, hands on the wheel, and mind on the drive.

- Do not use a phone in demanding driving situations. Use a hands-free method to place or receive necessary phone calls.
- Watch the road. Do not read, take notes, or look up information on phones or other electronic devices.
- Designate a front seat passenger to handle potential distractions.
- Become familiar with vehicle features before driving, such as programming favorite radio stations and adjusting climate control and seat settings. Program all trip information into any navigation device prior to driving.
- Wait until the vehicle is parked to retrieve items that have fallen to the floor.
- Stop or park the vehicle to tend to children.
- Keep pets in an appropriate carrier or restraint.
- Avoid stressful conversations while driving, whether with a passenger or on a cell phone.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Taking your eyes off the road too long or too often could cause a crash resulting in injury or death. Focus your attention on driving.

Refer to the infotainment section for more information on using that system, including pairing and using a cell phone.

If equipped, refer to the navigation manual for information on that system, including pairing and using a cell phone.

Defensive Driving

Defensive driving means “always expect the unexpected.” The first step in driving defensively is to wear the safety belt. See *Safety Belts on page 3-11*.

- Assume that other road users (pedestrians, bicyclists, and other drivers) are going to be careless and make mistakes. Anticipate what they might do and be ready.
- Allow enough following distance between you and the driver in front of you.
- Focus on the task of driving.

Drunk Driving

Death and injury associated with drinking and driving is a global tragedy.

⚠ WARNING

Drinking and then driving is very dangerous. Your reflexes, perceptions, attentiveness, and judgment can be affected by even a small amount of alcohol. You can have a serious — or even fatal — collision if you drive after drinking.

(Continued)

WARNING (CONTINUED)

Do not drink and drive or ride with a driver who has been drinking. Ride home in a cab; or if you are with a group, designate a driver who will not drink.

Control of a Vehicle

Braking, steering, and accelerating are important factors in helping to control a vehicle while driving.

Braking

Braking action involves perception time and reaction time. Deciding to push the brake pedal is perception time. Actually doing it is reaction time.

Average driver reaction time is about three-quarters of a second. In that time, a vehicle moving at 100 km/h (60 mph) travels 20 m (66 ft), which could be a lot of distance in an emergency.

Information Provided by: DEALER e-PROCESS

Helpful braking tips to keep in mind include:

- Keep enough distance between you and the vehicle in front of you.
- Avoid needless heavy braking.
- Keep pace with traffic.

If the engine ever stops while the vehicle is being driven, brake normally but do not pump the brakes. Doing so could make the pedal harder to push down. If the engine stops, there will be some power brake assist but it will be used when the brake is applied. Once the power assist is used up, it can take longer to stop and the brake pedal will be harder to push.

Steering

Electric Power Steering (2.4L L4 Engine)

If the vehicle has electric power steering, it does not have power steering fluid. Regular maintenance is not required.

If power steering assist is lost due to a system malfunction, the vehicle can be steered, but may require increased effort.

If the steering wheel is turned until it reaches the end of its travel and is held against that position for an extended period of time, power steering assist may be reduced.

Normal use of the power steering assist should return when the system cools down.

See specific vehicle steering messages under *Service Vehicle Messages on page 5-29*

Hydraulic Power Steering (3.6L V6 Engine)

If your vehicle has hydraulic power steering, it may require maintenance. See *Power Steering Fluid (2.4L L4 Engine) on page 10-19* or *Power Steering Fluid (3.6L V6 Engine) on page 10-19*.

If power steering is lost because the engine stops or a system malfunctions, the vehicle can be steered but may require increased effort. See your dealer if there is a problem.

Curve Tips

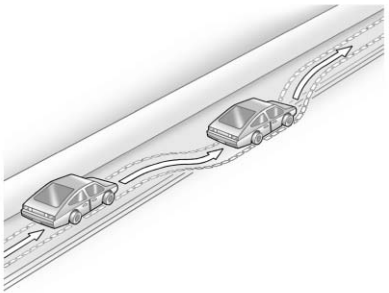
- Take curves at a reasonable speed.
- Reduce speed before entering a curve.
- Maintain a reasonable steady speed through the curve
- Wait until the vehicle is out of the curve before accelerating gently into the straightaway.

Information Provided by: DEALER E-PROCESS

Steering in Emergencies

- There are some situations when steering around a problem may be more effective than braking.
- Holding both sides of the steering wheel allows you to turn 180 degrees without removing a hand.
- Anti-lock Brake System (ABS) allows steering while braking.

Off-Road Recovery



The vehicle's right wheels can drop off the edge of a road onto the shoulder while driving. Follow these tips:

1. Ease off the accelerator and then, if there is nothing in the way, steer the vehicle so that it straddles the edge of the pavement.
2. Turn the steering wheel about one-eighth of a turn, until the right front tire contacts the pavement edge.
3. Turn the steering wheel to go straight down the roadway.

Loss of Control

Skidding

There are three types of skids that correspond to the vehicle's three control systems:

- Braking Skid — wheels are not rolling.
- Steering or Cornering Skid — too much speed or steering in a curve causes tires to slip and lose cornering force.
- Acceleration Skid — too much throttle causes the driving wheels to spin.

Defensive drivers avoid most skids by taking reasonable care suited to existing conditions, and by not overdriving those conditions. But skids are always possible.

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and quickly steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other

Information Provided by: DEALER E-PROCESS

material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.

- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

Off-Road Driving

All-wheel-drive vehicles can be used for off-road driving. Vehicles without all-wheel drive and vehicles not equipped with All Terrain (AT) or On-Off Road (OOR) tires must not be driven off-road except on a level, solid surface. To contact the tire manufacturer for more information about the original equipment tires, see the Limited Warranty and Owner Assistance Information manual.

Controlling the vehicle is the key to successful off-road driving. One of the best ways to control the vehicle is to control the speed.

⚠ WARNING

When driving off-road, bouncing and quick changes in direction can easily throw you out of position. This could cause you to lose control and crash. You and your passengers should always wear safety belts.

Before Driving Off-Road

- Have all necessary maintenance and service work completed.
- Fuel the vehicle, fill fluid levels, and check inflation pressure in all tires, including the spare, if equipped.
- Read all the information about all-wheel-drive vehicles in this manual.
- Make sure all underbody shields, if equipped, are properly attached.
- Know the local laws that apply to off-road driving.

To gain more ground clearance if needed, it may be necessary to remove the front fascia lower air dam.

Notice: **Operating the vehicle for extended periods without the front fascia lower air dam installed can cause improper air flow to the engine. Re-attach the front fascia air dam after off-road driving.**

Information Provided by: DEALER e-PROCESS

Loading the Vehicle for Off-Road Driving

⚠ WARNING

- Unsecured cargo on the load floor can be tossed about when driving over rough terrain. You or your passengers can be struck by flying objects. Secure the cargo properly.
- Keep cargo in the cargo area as far forward and as low as possible. The heaviest things should be on the floor, forward of the rear axle.
- Heavy loads on the roof raise the vehicle's center of gravity, making it more likely to roll over. You can be seriously or fatally injured if the vehicle rolls over. Put heavy loads inside the cargo area, not on the roof.

For more information about loading the vehicle, see *Vehicle Load Limits on page 9-14*.

Environmental Concerns

- Always use established trails, roads, and areas that have been set aside for public off-road recreational driving and obey all posted regulations.
- Do not damage shrubs, flowers, trees, or grasses or disturb wildlife.
- Do not park over things that burn. See *Parking over Things That Burn on page 9-25*.

Driving on Hills

Driving safely on hills requires good judgment and an understanding of what the vehicle can and cannot do.

⚠ WARNING

Many hills are simply too steep for any vehicle. Driving up hills can cause the vehicle to stall. Driving down hills can cause loss of control. Driving across hills can cause a rollover. You could be injured or killed. Do not drive on steep hills.

Before driving on a hill, assess the steepness, traction, and obstructions. If the terrain ahead cannot be seen, get out of the vehicle and walk the hill before driving further.

When driving on hills:

- Use a low gear and keep a firm grip on the steering wheel.
- Maintain a slow speed.
- When possible, drive straight up or down the hill.
- Slow down when approaching the top of the hill.

Information Provided by: DEALER E-PROCESS

- Use headlamps even during the day to make the vehicle more visible.

⚠ WARNING

Driving to the top of a hill at high speed can cause an accident. There could be a drop-off, embankment, cliff, or even another vehicle. You could be seriously injured or killed. As you near the top of a hill, slow down and stay alert.

- Never go downhill forward or backward with the transmission in N (Neutral). The brakes could overheat and you could lose control.
- When driving down a hill, keep the vehicle headed straight down. Use a low gear because the engine will work with the brakes to slow the vehicle and help keep the vehicle under control.

⚠ WARNING

Heavy braking when going down a hill can cause your brakes to overheat and fade. This could cause loss of control and you or others could be injured or killed. Apply the brakes lightly when descending a hill and use a low gear to keep vehicle speed under control.

If the vehicle stalls on a hill:

1. Apply the brakes to stop the vehicle, and then apply the parking brake.
2. Shift into P (Park) and then restart the engine.
 - If driving uphill when the vehicle stalls, shift to R (Reverse), release the parking brake, and back straight down.
 - Never try to turn the vehicle around. If the hill is steep enough to stall the vehicle, it is steep enough to cause it to roll over.
 - If you cannot make it up the hill, back straight down the hill.
 - Never back down a hill in N (Neutral) using only the brake.
 - The vehicle can roll backward quickly and you could lose control.
 - If driving downhill when the vehicle stalls, shift to a lower gear, release the parking brake, and drive straight down the hill.
3. If the vehicle cannot be restarted after stalling, set the parking brake, shift an automatic transmission into P (Park), and turn the vehicle off.
 3.1. Leave the vehicle and seek help.

Information Provided by: DEALER e-PROCESS

3.2. Stay clear of the path the vehicle would take if it rolled downhill.

- Avoid turns that take the vehicle across the incline of the hill. A hill that can be driven straight up or down might be too steep to drive across. Driving across an incline puts more weight on the downhill wheels which could cause a downhill slide or a rollover.
- Surface conditions can be a problem. Loose gravel, muddy spots, or even wet grass can cause the tires to slip sideways, downhill. If the vehicle slips sideways, it can hit something that will trip it – a rock, a rut, etc. – and roll over.
- Hidden obstacles can make the steepness of the incline more severe. If a rock is driven across with the uphill wheels, or if the downhill wheels drop into a rut or depression, the vehicle can tilt even more.
- If an incline must be driven across, and the vehicle starts to slide, turn downhill. This should help straighten out the vehicle and prevent the side slipping.

⚠ WARNING

Getting out of the vehicle on the downhill side when stopped across an incline is dangerous. If the vehicle rolls over, you could be crushed or killed. Always get out on the uphill side of the vehicle and stay well clear of the rollover path.

Driving in Mud, Sand, Snow, or Ice

Use a low gear when driving in mud – the deeper the mud, the lower the gear. Keep the vehicle moving to avoid getting stuck.

Traction changes when driving on sand. On loose sand, such as on beaches or sand dunes, the tires tend to sink into the sand. This affects steering, accelerating, and braking. Drive at a reduced speed and avoid sharp turns or abrupt maneuvers.

Traction is reduced on hard packed snow and ice and it is easy to lose control. Reduce vehicle speed when driving on hard packed snow and ice.

⚠ WARNING

Driving on frozen lakes, ponds, or rivers can be dangerous. Ice conditions vary greatly and the vehicle could fall through the ice; you and your passengers could drown. Drive your vehicle on safe surfaces only.

Information Provided by: DEALER E-PROCESS

Driving in Water

⚠ WARNING

Driving through rushing water can be dangerous. Deep water can sweep your vehicle downstream and you and your passengers could drown. If it is only shallow water, it can still wash away the ground from under your tires. Traction could be lost, and the vehicle could roll over. Do not drive through rushing water.

Notice: **Do not drive through standing water if it is deep enough to cover the wheel hubs, axles or exhaust pipe. Deep water can damage the axle and other vehicle parts.**

If the standing water is not too deep, drive slowly through it. At faster speeds, water splashes on the ignition system and the vehicle can stall. Stalling can also occur if you get the exhaust pipe under water.

While the exhaust pipe is under water, you will not be able to start the engine. When going through water, the brakes get wet, and it might take longer to stop. See *Driving on Wet Roads on page 9-10*.

After Off-Road Driving

Remove any brush or debris that has collected on the underbody or chassis, or under the hood. These accumulations can be a fire hazard.

After operation in mud or sand, have the brake linings cleaned and checked. These substances can cause glazing and uneven braking. Check the body structure, steering, suspension, wheels, tires, and exhaust system for damage and check the fuel lines and cooling system for any leakage.

More frequent maintenance service is required. Refer to the *Maintenance Schedule on page 11-3* for more information.

Information Provided by: DEALER e-PROCESS

Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

⚠ WARNING

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this

(Continued)

WARNING (CONTINUED)

happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

Hydroplaning

Hydroplaning is dangerous. Water can build up under the vehicle's tires so they actually ride on the water. This can happen if the road is wet enough and you are going fast enough. When the vehicle is hydroplaning, it has little or no contact with the road.

There is no hard and fast rule about hydroplaning. The best advice is to slow down when the road is wet.

Other Rainy Weather Tips

Besides slowing down, other wet weather driving tips include:

- Allow extra following distance.
- Pass with caution.
- Keep windshield wiping equipment in good shape.
- Keep the windshield washer fluid reservoir filled.
- Have good tires with proper tread depth. See *Tires on page 10-38*.
- Turn off cruise control.

Highway Hypnosis

Always be alert and pay attention to your surroundings while driving. If you become tired or sleepy, find a safe place to park the vehicle and rest.

Other driving tips include:

- Keep the vehicle well ventilated.
- Keep the interior temperature cool.
- Keep your eyes moving — scan the road ahead and to the sides.
- Check the rearview mirror and vehicle instruments often.

Hill and Mountain Roads

Driving on steep hills or through mountains is different than driving on flat or rolling terrain. Tips for driving in these conditions include:

- Keep the vehicle serviced and in good shape.
- Check all fluid levels and brakes, tires, cooling system, and transmission.
- Shift to a lower gear when going down steep or long hills.

⚠ WARNING

If you do not shift down, the brakes could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Shift down to let the engine assist the brakes on a steep downhill slope.

DEALER E-PROCESS

⚠ WARNING

Coasting downhill in N (Neutral) or with the ignition off is dangerous. The brakes will have to do all the work of slowing down and they could get so hot that they would not work well. You would then have poor braking or even none going down a hill. You could crash. Always have the engine running and the vehicle in gear when going downhill.

- Stay in your own lane. Do not swing wide or cut across the center of the road. Drive at speeds that let you stay in your own lane.
- Be alert on top of hills; something could be in your lane (stalled car, accident).
- Pay attention to special road signs (falling rocks area, winding roads, long grades, passing or no-passing zones) and take appropriate action.

Winter Driving

Driving on Snow or Ice

Drive carefully when there is snow or ice between the tires and the road, creating less traction or grip. Wet ice can occur at about 0°C (32°F) when freezing rain begins to fall, resulting in even less traction. Avoid driving on wet ice or in freezing rain until roads can be treated with salt or sand.

Drive with caution, whatever the condition. Accelerate gently so traction is not lost. Accelerating too quickly causes the wheels to spin and makes the surface under the tires slick, so there is even less traction.

Try not to break the fragile traction. If you accelerate too fast, the drive wheels will spin and polish the surface under the tires even more.

The Antilock Brake System (ABS) improves vehicle stability during hard stops on slippery roads, but apply the brakes sooner than when on dry pavement. See *Antilock Brake System (ABS) on page 9-30*.

Allow greater following distance on any slippery road and watch for slippery spots. Icy patches can occur on otherwise clear roads in shaded areas. The surface of a curve or an overpass can remain icy when the surrounding roads are clear. Avoid sudden steering maneuvers and braking while on ice.

Turn off cruise control on slippery surfaces.

Information Provided by: DEALER E-PROCESS

Blizzard Conditions

Being stuck in snow can be a serious situation. Stay with the vehicle unless there is help nearby. If possible, use Roadside Assistance. See *Roadside Assistance Program (Mexico) on page 13-7* or *Roadside Assistance Program (U.S. and Canada) on page 13-11*. To get help and keep everyone in the vehicle safe:

- Turn on the hazard warning flashers.
- Tie a red cloth to an outside mirror.

⚠ WARNING

Snow can trap engine exhaust under the vehicle. This may cause exhaust gases to get inside. Engine exhaust contains carbon monoxide (CO) which

(Continued)

WARNING (CONTINUED)

cannot be seen or smelled. It can cause unconsciousness and even death.

If the vehicle is stuck in the snow:

- Clear away snow from around the base of your vehicle, especially any that is blocking the exhaust pipe.
- Check again from time to time to be sure snow does not collect there.
- Open a window about 5 cm (2 in) on the side of the vehicle that is away from the wind to bring in fresh air.
- Fully open the air outlets on or under the instrument panel.
- Adjust the climate control system to a setting that circulates the air inside the vehicle and set the fan speed

(Continued)

Information Provided by: DEALER E-PROCESS

WARNING (CONTINUED)

to the highest setting. See “Climate Control Systems” in the Index.

For more information about carbon monoxide, see *Engine Exhaust on page 9-25*.

To save fuel, run the engine for only short periods as needed to warm the vehicle and then shut the engine off and close the window most of the way to save heat. Repeat this until help arrives but only when you feel really uncomfortable from the cold. Moving about to keep warm also helps.

If it takes some time for help to arrive, now and then when you run the engine, push the accelerator pedal slightly so the engine runs faster than the idle speed. This keeps the battery charged to restart the vehicle and to signal for help with the headlamps. Do this as little as possible to save fuel.

If the Vehicle Is Stuck

Slowly and cautiously spin the wheels to free the vehicle when stuck in sand, mud, ice, or snow.

If stuck too severely for the traction system to free the vehicle, turn the traction system off and use the rocking method. See *Traction Control System (TCS) on page 9-32*.

⚠ WARNING

If the vehicle's tires spin at high speed, they can explode, and you or others could be injured. The vehicle can overheat, causing an engine compartment fire or other damage. Spin the wheels as little as possible and avoid going above 56 km/h (35 mph).

Rocking the Vehicle to Get it Out

Turn the steering wheel left and right to clear the area around the front wheels. Turn off any traction system. Shift back and forth between R (Reverse) and a low forward gear, spinning the wheels as little as possible. To prevent transmission wear, wait until the wheels stop spinning before shifting gears. Release the accelerator pedal while shifting, and press lightly on the accelerator pedal when the transmission is in gear. Slowly spinning the wheels in the forward and reverse directions causes a rocking motion that could free the vehicle. If that does not get the vehicle out after a few tries, it might need to be towed out. If the vehicle does need to be towed out, see *Towing the Vehicle on page 10-69*.

Vehicle Load Limits

It is very important to know how much weight the vehicle can carry. This weight is called the vehicle capacity weight and includes the weight of all occupants, cargo and all nonfactory-installed options. Two labels on the vehicle show how much weight it may properly carry, the Tire and Loading Information label and the Certification label.

⚠ WARNING

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the

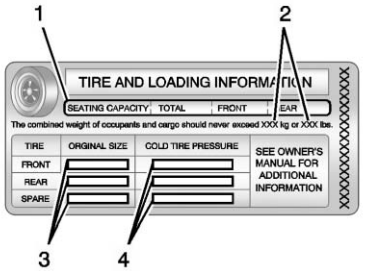
(Continued)

Information Provided by: DEALER E-PROCESS

WARNING (CONTINUED)

vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Tire and Loading Information Label



Label Example

A vehicle specific Tire and Loading Information label is attached to the vehicle's center pillar (B-pillar). With the driver's door open, you will find the label attached near the door lock post. The Tire and Loading Information label shows the number of occupant seating positions (1), and the maximum vehicle capacity weight (2) in kilograms and pounds.

The Tire and Loading Information label also shows the tire size of the original equipment tires (3) and the recommended cold tire inflation pressures (4). For more information on tires and inflation see *Tires on page 10-38* and *Tire Pressure on page 10-45*.

There is also important loading information on the Certification label. It tells you the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for the front and rear axle. See “Certification Label” later in this section.

Information Provided by: DEALER E-PROCESS

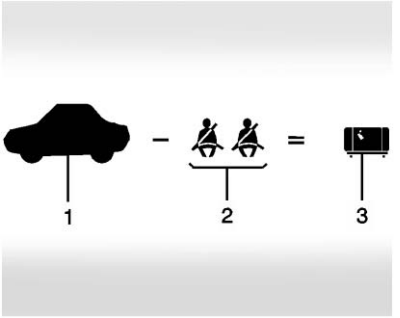
Steps for Determining Correct Load Limit

1. Locate the statement “The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs” on your vehicle's placard.
2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kg or XXX lbs.
4. The resulting figure equals the available amount of cargo and luggage load capacity. For example, if the “XXX” amount equals 1400 lbs and

there will be five 150 lb passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs (1400 − 750 (5 x 150) = 650 lbs).

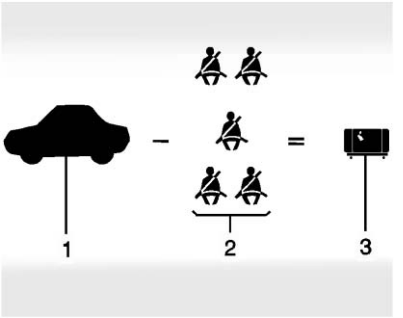
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.
6. If your vehicle will be towing a trailer, the load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage load capacity of your vehicle.

See *Trailer Towing on page 9-56* for important information on towing a trailer, towing safety rules and trailering tips.



Example 1

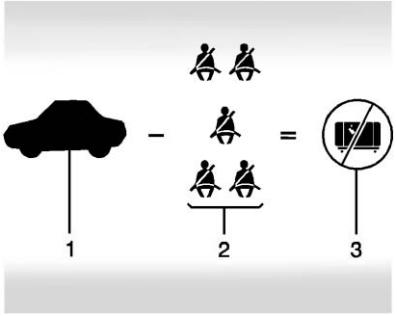
1. Vehicle Capacity Weight for Example 1 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 2 = 136 kg (300 lbs).
3. Available Occupant and Cargo Weight = 317 kg (700 lbs).



Example 2

1. Vehicle Capacity Weight for Example 2 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 68 kg (150 lbs) × 5 = 340 kg (750 lbs).
3. Available Cargo Weight = 113 kg (250 lbs).

Information Provided by: DEALER E-PROCESS

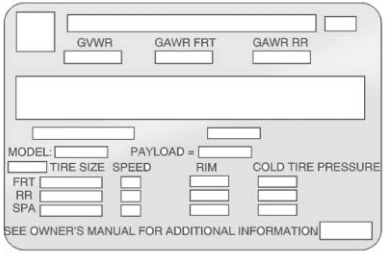


Example 3

1. Vehicle Capacity Weight for Example 3 = 453 kg (1,000 lbs).
2. Subtract Occupant Weight @ 91 kg (200 lbs) × 5 = 453 kg (1,000 lbs).
3. Available Cargo Weight = 0 kg (0 lbs).

Refer to the vehicle's Tire and Loading Information label for specific information about the vehicle's capacity weight and seating positions. The combined weight of the driver, passengers, and cargo should never exceed the vehicle's capacity weight.

Certification Label



Label Example

A vehicle-specific Certification label is attached to the lower center pillar on the driver side of the vehicle or on the rear edge of the driver door. The label shows the size of the vehicle's original tires and the inflation pressures needed to obtain the gross weight capacity of the vehicle. This is called Gross Vehicle Weight Rating (GVWR). The GVWR includes the weight of the vehicle, all occupants, fuel, and cargo.

The Certification/Tire label also tells you the maximum weights for the front and rear axles, called Gross Axle Weight Rating (GAWR). To find out the actual loads on the front and rear axles, you need to go to a weigh station and weigh the vehicle. Your dealer can help you with this. Be sure to spread out the load equally on both sides of the center line.

Never exceed the GVWR for the vehicle, or the GAWR for either the front or rear axle.

Information Provided by: DEALER E-PROCESS

If the vehicle is carrying a heavy load, it should be spread out. See “Steps for Determining Correct Load Limit” earlier in this section.

⚠ WARNING

Do not load the vehicle any heavier than the Gross Vehicle Weight Rating (GVWR), or either the maximum front or rear Gross Axle Weight Rating (GAWR). This can cause systems to break and change the way the vehicle handles. This could cause loss of control and a crash. Overloading can also shorten the life of the vehicle.

Your warranty does not cover parts or components that fail because of overloading.

The label will help you decide how much cargo and installed equipment your vehicle can carry.

Using heavier suspension components to get added durability might not change your weight ratings. Ask your dealer to help you load your vehicle the right way.

If you put things inside your vehicle – like suitcases, tools, packages, or anything else – they will go as fast as the vehicle goes. If you have to stop or turn quickly, or if there is a crash, they will keep going.

⚠ WARNING

Things inside the vehicle can strike and injure people in a sudden stop or turn, or in a crash.

(Continued)

Information Provided by DEALER E-PROCESS

WARNING (CONTINUED)

- Put things in the cargo area of the vehicle. In the cargo area, put them as far forward as possible. Try to spread the weight evenly.
- Never stack heavier things, like suitcases, inside the vehicle so that some of them are above the tops of the seats.
- Do not leave an unsecured child restraint in the vehicle.
- Secure loose items in the vehicle.
- Do not leave a seat folded down unless needed.

Starting and Operating

New Vehicle Break-In

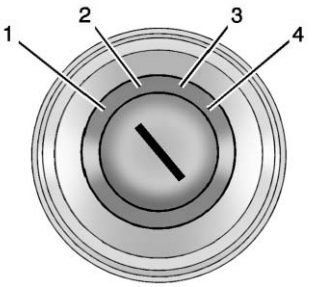
Notice: **The vehicle does not need an elaborate break-in. But it will perform better in the long run if you follow these guidelines:**

- **Do not drive at any one constant speed, fast or slow, for the first 805 km (500 mi). Do not make full-throttle starts. Avoid downshifting to brake or slow the vehicle.**
- **During the first 1 000 km (600 mi), avoid using more than moderate acceleration in lower gears and avoid vehicle speeds above 110 km/h (68 mph).**
- **Between the first 1 000 km (600 mi) and 5 000 km (3,000 mi), heavy acceleration in lower gears can be used. Vehicle speeds above 110 km/h (68 mph) should be limited to five minutes per use.**
- **Avoid making hard stops for the first 322 km (200 mi) or so. During this time the new brake linings are not yet broken in. Hard stops with new linings can mean premature wear and earlier replacement. Follow this breaking-in guideline every time you get new brake linings.**
- **Do not tow a trailer during break-in. See *Driving Characteristics and Towing Tips on page 9-53* for the trailer towing capabilities of your vehicle and more information.**

Following break-in, engine speed and load can be gradually increased.

Information Provided by: DEALER E-PROCESS

Ignition Positions



The ignition switch has four different positions.

Notice: **Using a tool to force the key to turn in the ignition could cause damage to the switch or break the key. Use the correct key, make sure it is all the way in, and turn it only with your hand. If the key cannot be turned by hand, see your dealer.**

The key must be fully extended to start the vehicle.

To shift out of P (Park), turn the ignition to ON/RUN and apply the brake pedal.

1 (STOPPING THE ENGINE/LOCK/OFF): When the vehicle is stopped, turn the ignition switch to LOCK/OFF to turn the engine off. Retained Accessory Power (RAP) will remain active. See *Retained Accessory Power (RAP) on page 9-22*.

This is the only position from which the key can be removed. This locks the steering wheel, ignition and automatic transmission.

The ignition switch can bind in the LOCK/OFF position with the wheels turned off center. If this happens, move the steering wheel from right to left while turning the key to ACC/ACCESSORY. If this does not work, then the vehicle needs service.

Do not turn the engine off when the vehicle is moving. This will cause a loss of power assist in the brake and steering systems and disable the airbags.

If the vehicle must be shut off in an emergency:

1. Brake using a firm and steady pressure. Do not pump the brakes repeatedly. This may deplete power assist, requiring increased brake pedal force.
2. Shift the vehicle to N (Neutral). This can be done while the vehicle is moving. After shifting to N (Neutral), firmly apply the brakes and steer the vehicle to a safe location.
3. Come to a complete stop, shift to P (Park), and turn the ignition to LOCK/OFF. On vehicles with an automatic transmission, the shift lever must be in P (Park) to turn the ignition switch to the LOCK/OFF position.
4. Set the parking brake. See *Parking Brake on page 9-31*.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Turning off the vehicle while moving may cause loss of power assist in the brake and steering systems and disable the airbags. While driving, only shut the vehicle off in an emergency.

If the vehicle cannot be pulled over, and must be shut off while driving, turn the ignition to ACC/ACCESSORY.

2 (ACC/ACCESSORY): This position provides power to some of the electrical accessories. It unlocks the steering wheel and ignition. To move the key from ACC/ACCESSORY to LOCK/OFF, push in the key and then turn it to LOCK/OFF.

3 (ON/RUN): The ignition switch stays in this position when the engine is running. This position can be used to operate the electrical accessories, including the

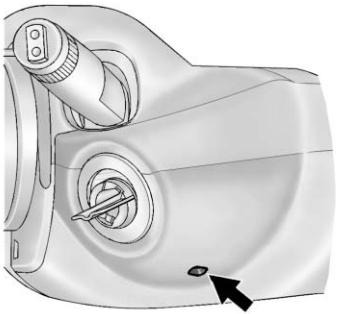
ventilation fan and 12-volt power outlets, as well as to display some warning and indicator lights. This position can also be used for service and diagnostics, and to verify the proper operation of the malfunction indicator lamp as may be required for emission inspection purposes. The transmission is also unlocked in this position on automatic transmission vehicles.

The battery could be drained if the key is left in the ACC/ACCESSORY or ON/RUN position with the engine off. The vehicle might not start if the battery is allowed to drain for an extended period of time.

4 (START): This position starts the engine. When the engine starts, release the key. The ignition switch will return to ON/RUN for normal driving.

A warning tone sounds when the driver door is opened if the ignition is still in ACC/ACCESSORY and the key is in the ignition. If the ignition becomes difficult to turn, see *Keys on page 2-1*.

Key Lock Release



Vehicles with an automatic transmission are equipped with an electronic key lock release system. The key lock release is designed to prevent ignition key removal unless the shift lever is in P (Park).

The key lock release is always functional except in the case of an uncharged or low voltage (less than 9-volt) battery. If the vehicle has an uncharged battery or a battery with low voltage, try charging or jump starting the battery. See *Jump Starting on page 10-67*.

If charging or jump starting the battery does not work, locate the hole below the ignition lock. Insert a flat bladed tool or another key from the key chain into the opening. When the lever can be felt, actuate the lever toward the driver, and remove the key from the ignition.

Starting the Engine

Move the shift lever to P (Park) or N (Neutral). The engine will not start in any other position. To restart the vehicle when it is already moving, use N (Neutral) only.

Notice: **Do not try to shift to P (Park) if the vehicle is moving. If you do, you could damage the transmission. Shift to P (Park) only when the vehicle is stopped.**

Starting Procedure

1. With your foot off the accelerator pedal, turn the ignition key to START. When the engine starts, let go of the key. The idle speed will go down as the engine warms. Do not race the engine immediately after starting it. Operate the engine and transmission gently to allow the oil to warm up and lubricate all moving parts.

 The vehicle has a Computer-Controlled Cranking System. This feature assists in starting the engine and protects components. If the ignition key is turned to the START position, and then released when the engine begins cranking, the engine will continue cranking for a few seconds or until the vehicle starts. If the engine does not start and the key is held in START for many seconds, cranking will be stopped after 15 seconds to prevent cranking motor damage. To prevent gear damage, this system also prevents cranking if the engine is already running. Engine cranking can be stopped by turning the ignition switch to ACC/ACCESSORY or LOCK/OFF.

 Notice: **Cranking the engine for long periods of time, by returning the key to the START position immediately after cranking has ended, can overheat and damage the cranking motor, and drain the battery. Wait at least 15 seconds between each try, to let the cranking motor cool down.**

2. If the engine does not start after five to 10 seconds, especially in very cold weather (below −18°C or 0°F), it could be flooded with too much gasoline. Push the accelerator pedal all the way to the floor and hold it there as you hold the key in START for a maximum of 15 seconds. Wait at least 15 seconds between each try, to allow the cranking motor to cool. When the engine starts, let go of the key and accelerator. If the vehicle starts briefly but then stops again, repeat the procedure. This clears the extra gasoline from the engine. Do not race the engine immediately after starting it. Operate the engine and transmission gently until the oil warms up and lubricates all moving parts.

Notice: **If you add electrical parts or accessories, you could change the way the engine operates. Any resulting damage would not be covered by the vehicle warranty. See *Add-On Electrical Equipment on page 9-59*.**

Retained Accessory Power (RAP)

These vehicle accessories can be used for up to 10 minutes after the engine is turned off:

- Audio System
- Power Windows
- Sunroof (if equipped)

DEALER PROCESS

Power to the audio system will continue to operate for up to 10 minutes or until the driver door is opened.

Power to the power windows and sunroof will continue to operate for up to 10 minutes or until any door is opened.

All these features will work when the key is in ON/RUN or ACC/ ACCESSORY.

Engine Coolant Heater

The engine coolant heater, if available, can help in cold weather conditions at or below −18°C (0°F) for easier starting and better fuel economy during engine warm-up. Plug in the coolant heater at least four hours before starting the vehicle. An internal thermostat in the plug-end of the cord will prevent engine coolant heater operation at temperatures above −18°C (0°F).

To Use The Engine Coolant Heater

1. Turn off the engine.
2. Open the hood and unwrap the electrical cord.

 The electrical cord is located on the passenger side of the engine compartment, in front of the air cleaner.
3. Plug it into a normal, grounded 110-volt AC outlet.

⚠ WARNING

Plugging the cord into an ungrounded outlet could cause an electrical shock. Also, the wrong kind of extension cord could overheat and cause a fire.

(Continued)

WARNING (CONTINUED)

You could be seriously injured. Plug the cord into a properly grounded three-prong 110-volt AC outlet. If the cord will not reach, use a heavy-duty three-prong extension cord rated for at least 15 amps.

4. Before starting the engine, be sure to unplug and store the cord as it was before to keep it away from moving engine parts. If you do not it could be damaged.

The length of time the heater should remain plugged in depends on several factors. Ask a dealer in the area where you will be parking the vehicle for the best advice on this.

Information Provided by: DEALER E-PROCESS

Shifting Into Park

⚠ WARNING

It can be dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, use the steps that follow. If you are pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-53*.

Use this procedure to shift into P (Park):

1. Hold the brake pedal down and set the parking brake.

 See *Parking Brake on page 9-31* for more information.

2. Hold the button on the shift lever and push the lever toward the front of the vehicle into P (Park).
3. Turn the ignition to LOCK/OFF.
4. Remove the key.

Leaving the Vehicle With the Engine Running

⚠ WARNING

It can be dangerous to leave the vehicle with the engine running. It could overheat and catch fire.

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground,

(Continued)

Information Provided by DEALER E-PROCESS

WARNING (CONTINUED)

always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 9-24*. If you are towing a trailer, see *Driving Characteristics and Towing Tips on page 9-53*.

If you have to leave the vehicle with the engine running, the vehicle must be in P (Park) and the parking brake set.

Release the button and check that the shift lever cannot be moved out of P (Park).

Torque Lock

Torque lock is when the weight of the vehicle puts too much force on the parking pawl in the transmission. This happens when parking on a hill and shifting the transmission into P (Park) is not

done properly and then it is difficult to shift out of P (Park). To prevent torque lock, set the parking brake and then shift into P (Park). To find out how, see “Shifting Into Park” listed previously.

If torque lock does occur, the vehicle may need to be pushed uphill by another vehicle to relieve the parking pawl pressure, so you can shift out of P (Park).

Shifting out of Park

To shift out of P (Park):

1. Apply the brake pedal.
2. Turn the ignition to ON/RUN.
3. Press the shift lever button.
4. Move the shift lever.

If you still are unable to shift out of P (Park):

1. Fully release the shift lever button.
2. Hold the brake pedal down and press the shift lever button again.
3. Move the shift lever.

If you still cannot move the shift lever from P (Park), see your dealer for service.

Parking over Things That Burn

⚠ WARNING

Things that can burn could touch hot exhaust parts under the vehicle and ignite. Do not park over papers, leaves, dry grass, or other things that can burn.

Engine Exhaust

⚠ WARNING

Engine exhaust contains carbon monoxide (CO) which cannot be seen or smelled. Exposure to CO can cause unconsciousness and even death.

Exhaust may enter the vehicle if:

- The vehicle idles in areas with poor ventilation (parking garages, tunnels, deep snow that may block underbody airflow or tail pipes).
- The exhaust smells or sounds strange or different.
- The exhaust system leaks due to corrosion or damage.
- The vehicle exhaust system has been modified, damaged, or improperly repaired.

(Continued)

Information Provided by: DEALER E-PROCESS

WARNING (CONTINUED)

- There are holes or openings in the vehicle body from damage or aftermarket modifications that are not completely sealed.

If unusual fumes are detected or if it is suspected that exhaust is coming into the vehicle:

- Drive it only with the windows completely down.
- Have the vehicle repaired immediately.

Never park the vehicle with the engine running in an enclosed area such as a garage or a building that has no fresh air ventilation.

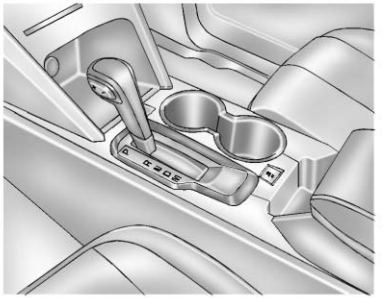
Running the Vehicle While Parked

It is better not to park with the engine running.

If the vehicle is left with the engine running, follow the proper steps to be sure the vehicle will not move. See *Shifting Into Park on page 9-24* and *Engine Exhaust on page 9-25*.

If parking on a hill and pulling a trailer, see *Driving Characteristics and Towing Tips on page 9-53*.

Automatic Transmission



The automatic transmission shift lever is located on the console between the seats.

P (Park): This position locks the front wheels. Use P (Park) when starting the engine because the vehicle cannot move easily.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

It is dangerous to get out of the vehicle if the shift lever is not fully in P (Park) with the parking brake firmly set. The vehicle can roll.

Do not leave the vehicle when the engine is running. If you have left the engine running, the vehicle can move suddenly. You or others could be injured. To be sure the vehicle will not move, even when you are on fairly level ground, always set the parking brake and move the shift lever to P (Park). See *Shifting Into Park on page 9-24* and *Driving Characteristics and Towing Tips on page 9-53*.

The vehicle has an automatic transmission shift lock control system. You must fully apply the regular brake first and then press the shift lever button before shifting from P (Park) when the ignition key is in ON/RUN. If you cannot shift out of P (Park), ease pressure on the shift lever, then push the shift lever all the way into P (Park) as you maintain brake application. Then press the shift lever button and move the shift lever into another gear. See *Shifting out of Park on page 9-25*.

R (Reverse): Use this gear to back up.

Notice: **Shifting to R (Reverse) while the vehicle is moving forward could damage the transmission. The repairs would not be covered by the vehicle warranty. Shift to R (Reverse) only after the vehicle is stopped.**

To rock the vehicle back and forth to get out of snow, ice or sand without damaging the transmission, see *If the Vehicle Is Stuck on page 9-14*.

N (Neutral): In this position the engine and transmission do not connect. Use N (Neutral) to restart a vehicle that is already moving.

Information Provided by: DEALER e-PROCESS

⚠ WARNING

Shifting into a drive gear while the engine is running at high speed is dangerous. Unless your foot is firmly on the brake pedal, the vehicle could move very rapidly. You could lose control and hit people or objects. Do not shift into a drive gear while the engine is running at high speed.

Notice: **Shifting out of P (Park) or N (Neutral) with the engine running at high speed may damage the transmission. The repairs would not be covered by the vehicle warranty. Be sure the engine is not running at high speed when shifting the vehicle.**

D (Drive): This position is for normal driving. It provides the best fuel economy. If you need more power for passing, and you are:

- Going less than 56 km/h (35 mph), push the accelerator pedal about halfway down.
- Going about 56 km/h (35 mph) or more, push the accelerator all the way down.

Notice: **If the vehicle seems to accelerate slowly or not shift gears when you go faster, and you continue to drive the vehicle that way, you could damage the transmission. Have the vehicle serviced right away.**

M (Manual Mode): Allows the driver to select the range of gear positions. See *Manual Mode on page 9-28*.

Manual Mode

Electronic Range Select (ERS) Mode

ERS or manual mode allows for the selection of the range of gear positions. Use this mode when driving downhill or towing a trailer to limit the top gear and vehicle speed. The shift position indicator within the Driver Information Center (DIC) will display a number next to the M indicating the highest available gear under manual mode and the driving conditions when manual mode was selected.

To use this feature:

1. Move the shift lever to M (Manual Mode).
2. Press the plus/minus button on the shift lever, to increase or decrease the gear range available.

When shifting to M (Manual Mode), the transmission will shift to a preset lower gear range. For this preset range, the highest gear available is displayed next to the M in the DIC. See *Driver Information Center (DIC) on page 5-21* for more information. All gears below that number are available to use. For example, when 4 (Fourth) is shown next to the M, 1 (First) through 4 (Fourth) gears are shifted automatically. To shift to 5 (Fifth) gear, press the + (Plus) button or shift into D (Drive).

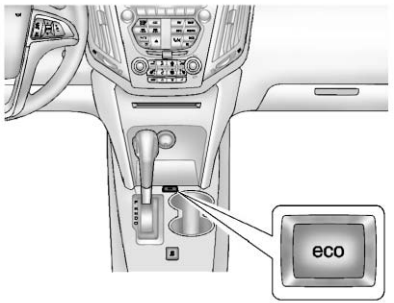
M (Manual Mode) will prevent shifting to a lower gear range if the engine speed is too high. If vehicle speed is not reduced within the time allowed, the lower gear range shift will not be completed. Slow the vehicle, then press the − (Minus) button to the desired lower gear range.

While using the ERS, cruise control can be used.

Information Provided by: DEALER E-PROCESS

Fuel Economy Mode

Vehicles with a 2.4L engine have a Fuel Economy Mode. When engaged, fuel economy mode can improve the vehicle's fuel economy.



Press the “eco” (economy) button by the shift lever to turn this feature on or off. The “eco” light in the instrument cluster will come on when engaged. See *Fuel Economy Light on page 5-19*. A Driver Information Center (DIC) message “ECO MODE ON” is also displayed. See *Fuel System Messages on page 5-27* for more information.

When Fuel Economy Mode is on:

- The transmission will upshift sooner and downshift later.
- The torque converter clutch will apply sooner and stay on longer.
- The gas pedal will be less sensitive.
- The vehicle's computer will more aggressively shut off fuel to the engine under deceleration.
- The engine idle speed will be lower.
- Driving performance is more conservative.
- The climate controls may take longer to heat or cool the cabin.
- The rear defogger will stay on for shorter periods of time.

Drive Systems

All-Wheel Drive

Vehicles with this feature always send engine power to all four wheels. It is fully automatic, and adjusts itself as needed for road conditions.

When using a compact spare tire on an AWD vehicle, the system automatically detects the compact spare and disables AWD. To restore AWD operation and prevent excessive wear on the system, replace the compact spare with a full-size tire as soon as possible. See *Compact Spare Tire on page 10-66*.

Information Provided by: DEALER E-PROCESS

Brakes

Antilock Brake System (ABS)

This vehicle has the Antilock Brake System (ABS), an advanced electronic braking system that helps prevent a braking skid.

When the engine is started and the vehicle begins to drive away, ABS checks itself. A momentary motor or clicking noise might be heard while this test is going on, and it might even be noticed that the brake pedal moves a little. This is normal.



If there is a problem with ABS, this warning light stays on. See *Antilock Brake System (ABS) Warning Light on page 5-15*.

If driving safely on a wet road and it becomes necessary to slam on the brakes and continue braking to avoid a sudden obstacle, a computer senses that the wheels are slowing down. If one of the wheels is about to stop rolling, the computer will separately work the brakes at each wheel.

ABS can change the brake pressure to each wheel, as required, faster than any driver could. This can help the driver steer around the obstacle while braking hard.

As the brakes are applied, the computer keeps receiving updates on wheel speed and controls braking pressure accordingly.

Remember: ABS does not change the time needed to get a foot up to the brake pedal or always decrease stopping distance. If you get too close to the vehicle in front of you, there will not be enough time to apply the brakes if that vehicle suddenly slows or stops. Always leave enough room up ahead to stop, even with ABS.

Using ABS

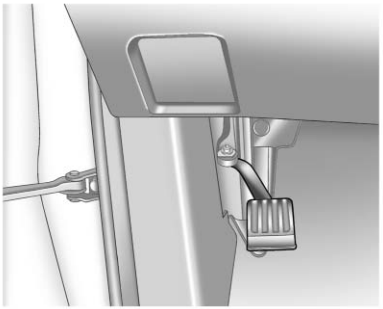
Do not pump the brakes. Just hold the brake pedal down firmly and let ABS work. You might hear the ABS pump or motor operating and feel the brake pedal pulsate, but this is normal.

Braking in Emergencies

ABS allows the driver to steer and brake at the same time. In many emergencies, steering can help more than even the very best braking.

Information Provided by: DEALER E-PROCESS

Parking Brake



To set the parking brake, hold the regular brake pedal down, then push the parking brake pedal down.

If the ignition is on, the brake system warning light will come on. See *Brake System Warning Light on page 5-14*.

Notice: **Driving with the parking brake on can overheat the brake system and cause premature wear or damage to brake system parts. Make sure that the parking brake is fully released and the brake warning light is off before driving.**

To release the parking brake, hold the regular brake pedal down, then push down momentarily on the parking brake pedal until you feel the pedal release. Slowly pull your foot up off the park brake pedal. If the parking brake is not released when you begin to drive, the brake system warning light will be on and a chime will sound warning you that the parking brake is still on.

If you are towing a trailer and are parking on a hill, see *Driving Characteristics and Towing Tips on page 9-53*.

Brake Assist

This vehicle has a brake assist feature designed to assist the driver in stopping or decreasing vehicle speed in emergency driving conditions. This feature uses the stability system hydraulic brake control module to supplement the power brake system under conditions where the driver has quickly and forcefully applied the brake pedal in an attempt to quickly stop or slow down the vehicle. The stability system hydraulic brake control module increases brake pressure at each corner of the vehicle until the ABS activates. Minor brake pedal pulsation or pedal movement during this time is normal and the driver should continue to apply the brake pedal as the driving situation dictates. The brake assist feature will automatically disengage when the brake pedal is released or brake pedal pressure is quickly decreased.

Information Provided by: DEALER E-PROCESS

Hill Start Assist (HSA)

This vehicle has a Hill Start Assist (HSA) feature, which may be useful when the vehicle is stopped on a grade. This feature is designed to prevent the vehicle from rolling, either forward or rearward, during vehicle drive off. After the driver completely stops and holds the vehicle in a complete standstill on a grade, HSA will be automatically activated. During the transition period between when the driver releases the brake pedal and starts to accelerate to drive off on a grade, HSA holds the braking pressure to ensure that there is no rolling. The brakes will automatically release when the accelerator pedal is applied within the two-second window. It will not activate if the vehicle is in a drive gear and facing downhill or if the vehicle is facing uphill and in R (Reverse).

Ride Control Systems

Traction Control System (TCS)

The vehicle has a Traction Control System (TCS) that limits wheel spin. On a front-wheel-drive vehicle, the system operates if it senses that one or both of the front wheels are spinning or beginning to lose traction. On an All-Wheel-Drive (AWD) vehicle, the system will operate if it senses that any of the wheels are spinning or beginning to lose traction. When this happens, the system brakes the spinning wheel(s) and/or reduces engine power to limit wheel spin.

The system may be heard or felt while it is working, but this is normal.

TCS is on whenever the vehicle is started. To limit wheel spin, especially in slippery road conditions, the system should always be left on. But, TCS can be turned off if needed.



flashes to indicate that the traction control system is active.

If there is a problem detected with TCS, SERVICE TRACTION CONTROL and SERVICE STABILITRAK may be displayed on the Driver Information Center (DIC) and will be on. See *Ride Control System Messages on page 5-28*. When this message is displayed and comes on and stays on, the vehicle is safe to drive but the system is not operational. Driving should be adjusted accordingly.

Information Provided by: DEALER E-PROCESS

Notice: **Do not repeatedly brake or accelerate heavily when TCS is off. The vehicle's driveline could be damaged.**

If comes on and stays on, reset the system by:

1. Stopping the vehicle.
2. Turning the engine off and waiting 15 seconds.
3. Starting the engine.

If still comes on and stays on at a speed above 20 km/h (13 mph), see your dealer for service.

A chime may also sound when the light comes on steady.

The is located on the console.



The TCS off light comes on and TRACTION CONTROL OFF is displayed on the Driver Information Center (DIC) to indicate that the traction control system has been turned off. See *Ride Control System Messages on page 5-28*.

TCS can be turned off by pressing and releasing . When TCS is turned off, comes on and the system will not limit wheel spin. Driving should be adjusted accordingly. Press and release again to turn the system back on.

When TCS is turned off on AWD vehicles, the system may still make noise. This is normal and necessary with AWD hardware.

It may be necessary to turn the system off if the vehicle ever gets stuck in sand, mud, or snow and rocking the vehicle is required. See *If the Vehicle Is Stuck on page 9-14*. See also *Winter Driving on page 9-12* for information on using TCS when driving in snowy or icy conditions.

If cruise control is being used when TCS activates, cruise control will automatically disengage. Press the cruise control button to re-engage when road conditions allow. See *Cruise Control on page 9-35*.

Adding non-GM accessories can affect the vehicle performance. See *Accessories and Modifications on page 10-2*.

StabiliTrak® System

The vehicle has a vehicle stability enhancement system called StabiliTrak. It is an advanced computer controlled system that assists with directional control of the vehicle in difficult driving conditions.

StabiliTrak activates when the computer senses a difference between the intended path and the direction the vehicle is actually traveling. StabiliTrak selectively

Information Provided by: DEALER E-PROCESS

applies braking pressure to the vehicle's brakes to help steer the vehicle in the intended direction.

StabiliTrak is on automatically whenever the vehicle is started. To assist with directional control of the vehicle, the system should always be left on. Trailer Sway Control (TSC) is also on automatically when the vehicle is started. See *Trailer Sway Control (TSC) on page 9-58*.



When the stability control system activates, the Traction Control System (TCS)/StabiliTrak light will flash on the instrument panel. This also occurs when traction control or TSC is activated. A noise may be heard or vibration may be felt in the brake pedal. This is normal. Continue to steer the vehicle in the intended direction.

If there is a problem detected with StabiliTrak, SERVICE STABILITRAK is displayed on the Driver Information Center (DIC) and will stay on. See *Ride Control System Messages on page 5-28*. When this message is displayed and/or comes on and stays on, the vehicle is safe to drive but the system is not operational. Driving should be adjusted accordingly.

If comes on and stays on, reset the system by:

1. Stopping the vehicle.
2. Turning the engine off and waiting 15 seconds.
3. Starting the engine.

If still comes on and stays on at a speed above 20 km/h (13 mph), see your dealer for service.

Information Provided by:
DEALER E-PROCESS



OFF

is on the console.

Both StabiliTrak and Traction Control can be turned off if needed by pressing and holding until and come on in the instrument cluster. STABILITRAK OFF is displayed on the DIC. This will also disable the TSC feature. When StabiliTrak is turned off, the system will not assist with directional control of the vehicle or limit wheel spin. Driving should be adjusted accordingly. Press and release again to turn both systems back on.

If cruise control is being used when StabiliTrak activates, the cruise control will automatically disengage. Press the cruise control button to re-engage when road conditions allow. See *Cruise Control on page 9-35*.

Cruise Control

With cruise control, the vehicle can maintain a speed of about 40 km/h (25 mph) or more without keeping your foot on the accelerator. Cruise control does not work at speeds below 40 km/h (25 mph).

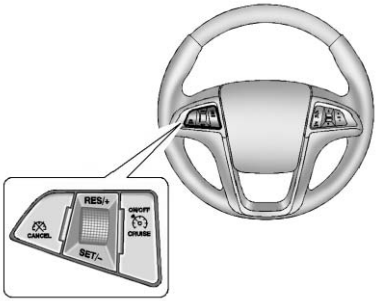
If the brakes are applied, the cruise control is disengaged.

If the vehicle has the StabiliTrak® system and begins to limit wheel spin while using cruise control, the cruise control automatically disengages. See *StabiliTrak® System on page 9-33* or *Traction Control System (TCS) on page 9-32*. When road conditions allow you to safely use it again, the cruise control can be turned back on.

⚠ WARNING

Cruise control can be dangerous where you cannot drive safely at a steady speed. So, do not use the cruise control on winding roads or in heavy traffic.

Cruise control can be dangerous on slippery roads. On such roads, fast changes in tire traction can cause excessive wheel slip, and you could lose control. Do not use cruise control on slippery roads.



ON/OFF CRUISE: Press to turn the cruise control system on and off.

CANCEL: Press to disengage cruise control without erasing the set speed from memory.

RES/+ (Resume/Accel): Move the thumbwheel up toward RES/+ to make the vehicle resume to a previously set speed or to accelerate.

Information Provided by: DEALER E-PROCESS

SET/− (Set/Coast): Move the thumbwheel down toward SET/- to set a speed and activate cruise control, or to make the vehicle decelerate.

Setting Cruise Control

If the cruise button is on when not in use, it could get bumped and go into cruise when not desired. Keep the cruise button turned off when cruise control is not being used.

1. Press ON/OFF CRUISE.
2. Get to the speed desired.
3. Press the thumbwheel and release it. The desired set speed briefly appears in the Driver Information Center (DIC) display.
4. Take your foot off the accelerator pedal.

Resuming a Set Speed

If the cruise control is set at a desired speed and then the brakes are applied, the cruise control is disengaged without erasing the set speed from memory.

Once the vehicle reaches about 40 km/h (25 mph) or more, move the thumbwheel up toward RES/+ briefly. The vehicle returns to the previous set speed and stays there.

Increasing Speed While Using Cruise Control

If the cruise control system is already activated,

- Move the thumbwheel up toward RES/+ and hold it until the vehicle accelerates to the desired speed, and then release it.
- To increase the speed in small amounts, move the thumbwheel up toward RES/+ briefly and then release it. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) faster.

Reducing Speed While Using Cruise Control

If the cruise control system is already activated,

Information Provided by: DEALER E-PROCESS

- Move the thumbwheel toward SET/− and hold until the desired lower speed is reached, then release it.
- To slow down in small amounts, move the thumbwheel toward SET/− briefly. Each time this is done, the vehicle goes about 1.6 km/h (1 mph) slower.

Passing Another Vehicle While Using Cruise Control

Use the accelerator pedal to increase the vehicle speed. When you take your foot off the pedal, the vehicle will slow down to the previous set cruise speed.

Using Cruise Control on Hills

How well the cruise control works on hills depends upon the vehicle speed, load, and the steepness of the hills. When going up steep hills, you might have to step on the accelerator pedal to maintain the vehicle speed. When going downhill, you might have to brake or shift to a lower gear to maintain the

vehicle's speed. When the brakes are applied the cruise control is disengaged.

Ending Cruise Control

There are three ways to end cruise control:

- To disengage cruise control; step lightly on the brake pedal or clutch, the indicator light will go off.
- Press CANCEL.
- To turn off the cruise control, press ON/OFF CRUISE. The cruise control cannot be resumed.

Erasing Speed Memory

The cruise control set speed is erased from memory if ON/OFF CRUISE is pressed or if the vehicle is turned off.

Object Detection Systems

Forward Collision Alert (FCA) System

For vehicles with this feature, read the following section before using it.

The Forward Collision Alert (FCA) system may help to avoid or reduce the harm caused by front-end crashes. FCA provides a flashing visual alert and beeps when approaching a vehicle directly ahead too quickly. FCA also provides a visual alert if following another vehicle much too closely. The FCA symbol is on top of the instrument panel to the right of the steering wheel.

The forward-looking FCA camera sensor is on the windshield ahead of the rearview mirror. FCA detects vehicles within a distance of approximately 60 m (197 ft) and operates at speeds above 40 km/h (25 mph).

⚠ WARNING

FCA is a warning system and does not apply the brakes. When approaching a slower-moving or stopped vehicle ahead too rapidly, or when following a vehicle too closely, FCA may not provide a warning with enough time to help avoid a crash. FCA does not warn of pedestrians, animals, signs, guardrails, bridges, construction barrels, or other objects. Be ready to take action and apply the brakes. For more information, see *Defensive Driving on page 9-3*.

Information Provided by: DEALER E-PROCESS

Detecting the Vehicle Ahead



The green vehicle ahead indicator will appear when a vehicle is detected ahead. Whenever this indicator does not appear, FCA will not respond. The indicator may disappear on curves, highway exit ramps, or hills, or due to poor visibility. The FCA system will not detect another vehicle ahead until it is completely in the driving lane.

⚠ WARNING

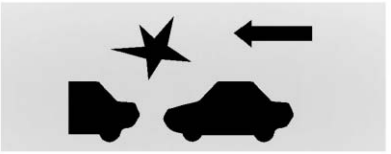
FCA does not provide a warning to help avoid a crash, unless it detects a vehicle. FCA may not detect a vehicle ahead if the FCA sensor is blocked by dirt, snow,

(Continued)

WARNING (CONTINUED)

or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and FCA sensors clean and in good repair.

Collision Alert

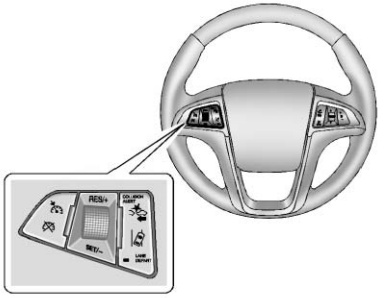


When your vehicle approaches another vehicle too rapidly, the red FCA display will flash and sound several beeps. When this occurs, the brake system prepares for driver braking to occur more rapidly. Continue to apply the brake pedal as the driving situation dictates.

Tailgating Alert

The red FCA display will stay continuously illuminated if the vehicle ahead remains much too close.

Selecting the Alert Timing



The Collision Alert control is on the steering wheel. Press COLLISION ALERT to set the alert timing to far, medium, near or off. The first button

Information Provided by: DEALER E-PROCESS

press shows the current control setting on the DIC. Additional button presses will change this setting. The chosen setting will remain until it is changed and will affect both the Collision Alert and the Tailgating Alert features. The timing of both alerts will vary based on vehicle speed. The faster the vehicle speed, the further away the alert will occur. Consider traffic and weather conditions when selecting the alert timing. The range of selectable alert timing may not be appropriate for all drivers and driving conditions.

Unnecessary Alerts

FCA may sometimes set unnecessary alerts to turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

Other Messages

There are messages that may appear on the Driver Information Center (DIC) in the instrument cluster to provide information about FCA. See *Object Detection System Messages on page 5-27*.

Cleaning the System

If the FCA system does not seem to operate properly, clean the outside of the windshield area in front of the camera sensor before considering taking the vehicle in for service.

Ultrasonic Parking Assist

For vehicles with the Ultrasonic Rear Parking Assist (URPA) system, it assists the driver with parking and avoiding objects while in R (Reverse). URPA operates at speeds less than 8 km/h (5 mph), and the sensors on the rear bumper detect objects up to 2.5 m (8 ft) behind the vehicle, and at least 20 cm (8 in) off the ground.

Information Provided by: DEALER e-PROCESS

⚠ WARNING

The URPA system does not detect children, pedestrians, bicyclists, animals, or objects below the bumper or that are too close or too far from the vehicle. It is not available at speeds greater than 8 km/h (5 mph). To prevent injury, death, or vehicle damage, even with URPA, always check the area around the vehicle and check all mirrors before backing.

How the System Works

URPA comes on automatically when the shift lever is moved into R (Reverse). A single tone sounds to indicate the system is working.

URPA operates only at speeds less than 8 km/h (5 mph).

An obstacle is indicated by audible beeps. The interval between the beeps becomes shorter as the vehicle gets closer to the obstacle.

When the distance is less than 30 cm (12 in) the beeping is a continuous tone for five seconds.

To be detected, objects must be at least 20 cm (8 in) off the ground and below liftgate level. Objects must also be within 2.5 m (8 ft) from the rear bumper. The distance objects can be detected may be less during warmer or humid weather.

Turning the System On and Off

The URPA system can be turned on and off using the infotainment system controls. See *Vehicle Personalization on page 5-31* for more information.

When the system is off, PARK ASSIST OFF displays on the Driver Information Center (DIC). The message disappears after a short period of time.

URPA defaults to the on setting each time the vehicle is started.

When the System Does Not Seem to Work Properly

The following messages may be displayed on the DIC:

SERVICE PARKING ASSIST: If this message occurs, check the following conditions:

- The ultrasonic sensors are not clean. Keep the vehicle's rear bumper free of mud, dirt, snow, ice, and slush. For cleaning instructions, see *Exterior Care on page 10-73*.
- The park assist sensors are covered by frost or ice. Frost or ice can form around and behind the sensors and may not always be seen; this can occur after washing the vehicle in cold weather. The message may not clear until the frost or ice has melted.

If the above conditions do not exist, take the vehicle to your dealer to repair the system.

PARK ASSIST OFF: If the URPA system does not activate due to a temporary condition, the message displays on the DIC. This can occur under the following conditions:

- The driver has disabled the system.
- A trailer was attached to the vehicle, or an object was hanging out of the liftgate during the last drive cycle. Once the object is removed, URPA will return to normal operation.
- A tow bar is attached to the vehicle.
- The bumper is damaged. Take the vehicle to your dealer to repair the system.
- Other conditions, such as vibrations from a jackhammer or the compression of air brakes on a very large truck, are affecting system performance.

Information Provided by: DEALER E-PROCESS

Side Blind Zone Alert (SBZA)

The vehicle may have a Side Blind Zone Alert (SBZA) system. Read this entire section before using the system.

⚠ WARNING

SBZA does not detect vehicles rapidly approaching outside of the side blind zones, pedestrians, bicyclists, or animals. Failure to use proper care when changing lanes may result in injury, death, or vehicle damage. Before making a lane change, always check mirrors, glance over your shoulder, and use the turn signals.

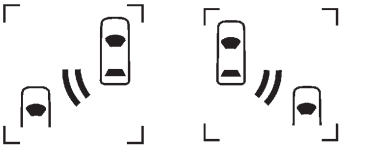
When the system detects a vehicle in the side blind zone, amber SBZA displays will light up in the side mirrors. This indicates that it may be unsafe to change lanes. Before making a lane change, always check the SBZA display, check the outside and rearview mirrors, look over your shoulder for vehicles and hazards, and use the turn signal.

SBZA Detection Zones

The SBZA sensor covers a zone of approximately one lane over from both sides of the vehicle, or 3.5 m (11 ft). This zone starts at each side mirror and goes back approximately 5.0 m (16 ft). The height of the zone is approximately between 0.5 m (1.5 ft) and 2.0 m (6 ft) off the ground.

The SBZA detection zones do not change if the vehicle is towing a trailer. So be extra careful when changing lanes while towing a trailer.

How the System Works



Left Side Mirror Display | Right Side Mirror Display

When the vehicle is started, both outside mirror displays will briefly come on to indicate that the system is operating. While driving forward, the left or right side mirror SBZA display will light up if a vehicle is detected in that blind zone. If you activate a turn signal and a vehicle has been detected on the same side, the SBZA display will flash to give you extra warning not to change lanes.

SBZA displays do not come on while the vehicle is approaching or passing other vehicles. At speeds greater than 32 km/h (20 mph), SBZA displays may come on when

Information Provided by: DEALER E-PROCESS

a vehicle you have passed remains in or drops back into the detection zone.

SBZA can be disabled through vehicle personalization. See *Vehicle Personalization on page 5-31* for more information. If the SBZA is disabled by the driver, the SBZA mirror displays will not light up during normal driving.

When the System Does Not Seem to Work Properly

Occasional missed alerts can occur under normal circumstances and will increase in wet conditions. The system does not need to be serviced due to an occasional missed alert. The number of missed alerts will increase with increased rainfall or road spray.

If the SBZA displays do not light up when the system is on and vehicles are in the blind zone, the system may need service. Take the vehicle to your dealer.

SBZA is designed to ignore stationary objects; however, the system may occasionally light up due to guard rails, signs, trees, shrubs, and other stationary objects. This is normal system operation; the vehicle does not need service.

SBZA does not operate when the left or right corners of the rear bumper are covered with mud, dirt, snow, ice, or slush, or in heavy rainstorms. For cleaning instructions, see *Exterior Care on page 10-73*. If the infotainment display still shows the SIDE BLIND ZONE SYS. UNAVAILABLE message after cleaning the bumper, see your dealer.

The SBZA displays may remain on if a trailer is attached to the vehicle, or a bicycle or object is extending out to either side of the vehicle.

When SBZA is disabled for any reason other than the driver turning it off, the driver will not be able to turn SBZA back on using vehicle personalization. The On option will not be selectable if the conditions for normal system operation are not met. Until normal operating conditions for SBZA are met, you should not rely upon SBZA while driving.

SBZA Error Messages

The following messages may appear on the infotainment display:

SIDE BLIND ZONE ALERT SYSTEM OFF: This message indicates that the driver has turned the system off.

SIDE BLIND ZONE SYS. UNAVAILABLE: This message indicates that the SBZA system is disabled because the sensor is blocked and cannot detect vehicles in the blind zone. The sensor may be blocked by mud, dirt, snow, ice, or slush. This message may also activate during heavy rain or due to road spray. The vehicle does not need service. For cleaning, see *Exterior Care on page 10-73*.

DEALER E-PROCESS

SERVICE BLIND ZONE ALERT SYSTEM: If this message appears, both SBZA displays will remain on indicating there is a problem with the SBZA system. If these displays remain on after continued driving, the system needs service. Take the vehicle to your dealer.

FCC Information

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

Rear Vision Camera (RVC)

The vehicle may have a Rear Vision Camera (RVC) system. Read this entire section before using it.

The RVC can assist the driver when backing up by displaying a view of the area behind the vehicle.

⚠ WARNING

The RVC system does not display children, pedestrians, bicyclists, animals, or any other object located outside the camera's field of view, below the bumper, or under the vehicle. Perceived distances may be different from actual distances. Do not back the vehicle using only the RVC screen, during longer, higher speed backing maneuvers, or where there could be cross traffic. Failure to use proper care before backing may result in injury, death, or vehicle damage. Always check behind and around the vehicle before backing.

An image appears on the radio screen when the vehicle is shifted into R (Reverse). The radio screen goes to the previous screen after approximately 10 seconds once the vehicle is shifted out of R (Reverse).

Information Provided by: DEALER E-PROCESS

To cancel the delay, do one of the following:

- Press a hard key on the navigation system.
- Shift into P (Park).
- Reach a vehicle speed of 8 km/h (5 mph).

Turning the Rear Vision Camera System On or Off

To turn the rear vision camera system on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.
4. Select Rear Camera Options.
5. Select Camera. When a check mark appears next to the Camera option, then the RVC system is on.

Symbols

The RVC system may have a feature that lets the driver view symbols on the radio screen while using the RVC. The Ultrasonic Rear Park Assist (URPA) system must not be disabled to use the caution symbols. The error message Rear Parking Assist Symbols Unavailable may display if URPA has been disabled and the symbols have been turned on. See *Ultrasonic Parking Assist on page 9-39*.

On vehicles with the Rear Cross Traffic Alert (RCTA), a warning triangle with an arrow may also display on the RVC screen to warn of traffic coming from either direction. This system detects objects coming from up to 30 m (98 ft) from the left or right side of the vehicle.

The symbols appear and may cover an object when viewing the radio screen when an object is detected by the URPA system.

To turn the symbols on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.
4. Select Rear Camera Options.
5. Select Symbols. When a check mark appears next to the Symbols option, symbols will appear.

Guidelines

The RVC system may have a guideline overlay that can help the driver align the vehicle when backing into a parking spot.

To turn the guidelines on or off:

1. Shift into P (Park).
2. Press the CONFIG button.
3. Select Display.
4. Select Rear Camera Options.
5. Select Guidelines. When a check mark appears next to the Guidelines option, guidelines will appear.

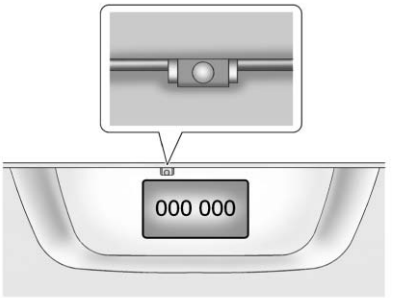
Information Provided by: DEALER E-PROCESS

Rear Vision Camera Error Messages

SERVICE REAR VISION CAMERA SYSTEM: This message can display on the radio screen when the system is not receiving information it requires from other vehicle systems.

If any other problem occurs or if a problem persists, see your dealer.

Rear Vision Camera Location

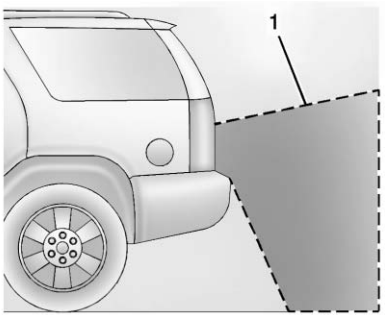


The camera is located above the license plate.

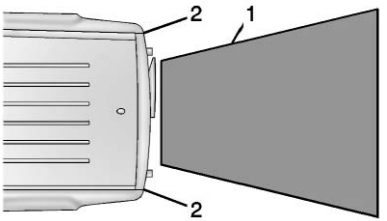
The area displayed by the camera is limited.

It does not display objects that are close to either corner or under the bumper and can vary depending on vehicle orientation or road conditions. The distance of the image that appears on the screen is different from the actual distance.

The following illustration shows the field of view that the camera provides.



1. View displayed by the camera.



1. View displayed by the camera.
2. Corner of the rear bumper.

When the System Does Not Seem To Work Properly

The RVC system may not work properly or display a clear image if:

- The RVC is turned off. See “Turning the Rear Vision Camera System On or Off” earlier in this section.
- It is dark.
- The sun or the beam of headlights is shining directly into the camera lens.
- Ice, snow, mud, or anything else builds up on the camera lens. Clean the lens, rinse it with water, and wipe it with a soft cloth.
- The back of the vehicle is in an accident, the position and mounting angle of the camera can change or the camera can be affected. Be sure to have the camera and its position and mounting angle checked at your dealer.

Information Provided by:
DEALER E-PROCESS

Lane Departure Warning (LDW)

For vehicles with this feature, read the entire section before using it.

⚠ WARNING

The LDW system is an aid to help the vehicle stay in the driving lane. It does not steer the vehicle. The LDW system may not:

- Provide enough time to avoid a crash.
- Detect lane markings under bad weather conditions or if the windshield is dirty.
- Detect lane markings and will not detect road edges.
- Warn that the vehicle is crossing a lane marking if the system does not detect the lane marking.

(Continued)

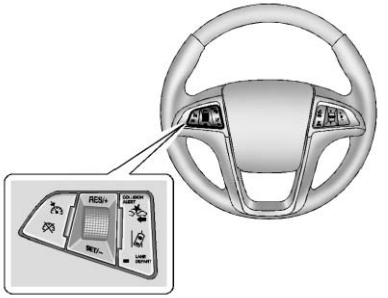
WARNING (CONTINUED)

If LDW only detects lane markings on one side of the road, it will only warn you when departing the lane on the side where it has detected a lane marker. Even with LDW, always keep your attention on the road and maintain proper vehicle position within the lane, or vehicle damage, injury, or death could occur. Always keep the windshield clean and do not use LDW in bad weather conditions.

When the vehicle crosses a detected lane marking, the LDW indicator will flash and three beeps will sound. LDW will not warn if the turn signal is on or if a sharp maneuver is made.

How the System Works

The LDW camera sensor is on the windshield ahead of the rearview mirror.



To turn LDW on and off, press the LANE DEPART button on the steering wheel. The control indicator will light when LDW is on.



When the vehicle is started, the LDW indicator on the instrument panel will come on briefly.

Information Provided by: DEALER E-PROCESS

LDW operates at speeds of 56 km (35 mph) or greater. If LDW is on, the LDW indicator will appear green if the system detects a left or right lane marking. This indicator will change to amber, flash, and three chimes will sound if the vehicle crosses a detected lane marking without using the turn signal.

To change the volume of the warning chime, see “Chime Volume” under *Vehicle Personalization on page 5-31* for more information.

When the System Does Not Seem To Work Properly

If the LDW symbol does not appear:

- The lane markings on the road may not be seen.
- The camera sensor may be blocked by dirt, snow or ice.
- The windshield may be damaged.
- The weather may be limiting visibility.

This is normal operation; the vehicle does not need service. Clean the windshield.

⚠ WARNING

If the LDW camera sensor is blocked by dirt, snow, or ice, or if the headlamps are not cleaned or properly aimed, or if the windshield is dirty or damaged, it may not detect the lanes ahead. LDW may not help avoid a crash under these conditions. Keep the headlamps cleaned and properly aimed and the windshield clean.

LDW warnings may occasionally occur due to tar marks, shadows, cracks in the road, or other road imperfections. This is normal system operation, the vehicle does not need service.

LDW Messages

FRONT CAMERA BLOCKED, CLEAN WINDSHIELD: This message may appear because the front camera is blocked and cannot operate properly. It may also activate during heavy rain or due to road spray.

LANE DEPARTURE SYSTEM UNAVAILABLE: This message may appear if LDW does not activate due to a temporary condition.

SERVICE FRONT CAMERA: This message may appear to indicate that LDW is not working properly. If this message remains on after continued driving, the system needs service. Take the vehicle to your dealer.

Information Provided by: DEALER E-PROCESS

Fuel

Use of the recommended fuel is an important part of the proper maintenance of this vehicle. To help keep the engine clean and maintain optimum vehicle performance, we recommend the use of gasoline advertised as TOP TIER Detergent Gasoline.

Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com. TOP TIER gasoline is only available in the U.S. and Canada.



Vehicles that have a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). See *Fuel E85 (85% Ethanol) on page 9-50*. For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-48*.

Recommended Fuel

Use regular unleaded gasoline with a posted octane rating of 87 or higher. If the octane rating is less than 87, an audible knocking noise, commonly referred to as spark knock, might be heard when driving. If this occurs, use a gasoline rated at 87 octane or higher as soon as possible. If heavy knocking is heard when using gasoline rated at 87 octane or higher, the engine needs service.

Gasoline Specifications

At a minimum, gasoline should meet ASTM specification D 4814. Some gasolines contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). We recommend against the use of gasolines containing MMT. See *Fuel Additives on page 9-49* for additional information.

California Fuel Requirements

If the vehicle is certified to meet California Emissions Standards, it is designed to operate on fuels that meet California specifications. See the underhood emission control

DEALER E-PROCESS

label. If this fuel is not available in states adopting California Emissions Standards, the vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance might be affected. The malfunction indicator lamp could turn on and the vehicle might fail a smog-check test. See *Malfunction Indicator Lamp on page 5-12*. If this occurs, return to your authorized dealer for diagnosis. If it is determined that the condition is caused by the type of fuel used, repairs might not be covered by the vehicle warranty.

Fuels in Foreign Countries

Never use leaded gasoline or any other fuel not recommended in the previous text on fuel. Costly repairs caused by use of improper fuel would not be covered by the vehicle warranty.

To check the fuel availability, ask an auto club, or contact a major oil company that does business in the country where you will be driving.

Fuel Additives

To provide cleaner air, all gasolines in the United States are now required to contain additives that help prevent engine and fuel system deposits from forming, allowing the emission control system to work properly. In most cases, nothing should have to be added to the fuel. However, some gasolines contain only the minimum amount of additive required to meet U.S. Environmental Protection Agency regulations. To help keep fuel injectors and intake valves clean and avoid problems due to dirty injectors or valves, look for gasoline that is advertised as TOP TIER Detergent Gasoline. Look for the TOP TIER label on the fuel pump to ensure gasoline meets enhanced detergency standards developed by the auto companies. A list of marketers providing TOP TIER Detergent Gasoline can be found at www.toptiergas.com.

For customers who do not use TOP TIER Detergent Gasoline regularly, one bottle of GM Fuel System Treatment PLUS, added to the fuel tank at every engine oil change, can help clean deposits from fuel injectors and intake valves. GM Fuel System Treatment PLUS is the only gasoline additive recommended by General Motors. It is available at your dealer.

Gasolines containing oxygenates, such as ethers and ethanol, and reformulated gasolines might be available in your area. We recommend that you use these gasolines, if they comply with the specifications described earlier. However, E85 (85% ethanol) and other fuels containing more than 15% ethanol must not be used in vehicles that were not designed for those fuels.

DEALER EPROCESS

Notice: **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Some gasolines that are not reformulated for low emissions can contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT); ask the attendant where you buy gasoline whether the fuel contains MMT. We recommend against the use of such gasolines. Fuels containing MMT can reduce spark plug life and affect emission control system performance. The malfunction indicator lamp might turn on. If this occurs, return to your dealer for service.

Fuel E85 (85% Ethanol)

Vehicles that have a yellow fuel cap can use either unleaded gasoline or ethanol fuel containing up to 85% ethanol (E85). For all other vehicles, use only the unleaded gasoline described under *Recommended Fuel on page 9-48*.

We encourage the use of E85 in vehicles that are designed to use it. The ethanol in E85 is a “renewable” fuel, meaning it is made from renewable sources such as corn and other crops.

Many service stations will not have an 85% ethanol fuel (E85) pump available. The U.S. Department of Energy has an alternative fuels website (www.afdc.energy.gov/afdc/locator/stations/) that can help you find E85 fuel. Those stations that do have E85 should have a label indicating ethanol content. Do not use the fuel if the ethanol content is greater than 85%.

At a minimum, E85 should meet ASTM Specification D 5798 or CGSB Specification 3.512. Filling the tank with fuel mixtures that do not meet ASTM or CGSB specifications can affect driveability and could cause the malfunction indicator lamp to come on. As the outside temperature approaches freezing, ethanol fuel distributors should supply winter grade ethanol, the same as with unleaded gasoline.

The starting characteristics of E85 fuel make it unsuitable for use when temperatures fall below −18°C (0°F). In the range of −18°C (0°F) to 0°C (32°F), it may take more time to start the engine.

E85 has less energy per liter (gallon) than gasoline, so you will need to refill the fuel tank more often when using E85 than when you are using gasoline. See *Filling the Tank on page 9-51*.

Information Provided by: DEALER E-PROCESS

Notice: **Some additives are not compatible with E85 fuel and can harm the vehicle's fuel system. Do not add anything to E85. Damage caused by additives would not be covered by the vehicle warranty.**

Notice: **This vehicle was not designed for fuel that contains methanol. Do not use fuel containing methanol. It can corrode metal parts in the fuel system and also damage plastic and rubber parts. That damage would not be covered under the vehicle warranty.**

Filling the Tank

⚠ WARNING

Fuel vapors and fuel fires burn violently and can cause injury or death.

(Continued)

WARNING (CONTINUED)

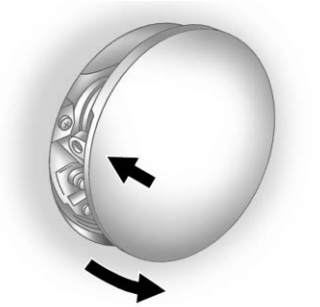
- To help avoid injuries to you and others, read and follow all the instructions on the fuel pump island.
- Turn off the engine when refueling.
- Keep sparks, flames, and smoking materials away from fuel.
- Do not leave the fuel pump unattended.
- Do not reenter the vehicle while pumping fuel.
- Keep children away from the fuel pump and never let children pump fuel.
- Fuel can spray out if the fuel cap is opened too quickly. This spray can happen if the tank is nearly full, and is more likely in hot weather. Open the fuel cap slowly and

(Continued)

Information Provided by: DEALER E-PROCESS

WARNING (CONTINUED)

wait for any hiss noise to stop then unscrew the cap all the way



The tethered fuel cap is behind the fuel door on the vehicle's passenger side. To open the fuel door, push the rearward center edge in and release. When applied pressure is removed, the fuel door will spring partially open.

Turn the fuel cap counterclockwise to remove. Do not release the cap too soon or it will spring back. Reinstall the cap by turning it clockwise until it clicks.

If the cap is not properly installed, the malfunction indicator lamp will come on. See *Malfunction Indicator Lamp on page 5-12* for more information.

Do not top off or overfill the tank. Wait a few seconds before removing the nozzle. Clean fuel from painted surfaces as soon as possible. See *Exterior Care on page 10-73*.

⚠ WARNING

If a fire starts while you are refueling, do not remove the nozzle. Shut off the flow of fuel by shutting off the pump or by notifying the station attendant. Leave the area immediately.

Notice: **If a new fuel cap is needed, be sure to get the right type of cap from your dealer. The wrong type of fuel cap might not fit properly, might cause the malfunction indicator lamp to light, and could damage the fuel tank and emissions system. See *Malfunction Indicator Lamp on page 5-12*.**

Filling a Portable Fuel Container

⚠ WARNING

Filling a portable fuel container while it is in the vehicle can cause fuel vapors that can ignite either by static electricity or other means. You or others could be badly burned and the vehicle could be damaged. Always:

- Use approved fuel containers.

(Continued)

WARNING (CONTINUED)

- Remove container from vehicle, trunk, or pickup bed before filling.
- Place container on the ground.
- Place the nozzle inside the fill opening of the container before dispensing fuel, and keep it in contact with the fill opening until filling is complete.
- Do not smoke while pumping fuel.

Information Provided by: DEALER E-PROCESS

Towing

General Towing Information

Only use towing equipment that has been designed for the vehicle. Contact your dealer or trailering dealer for assistance with preparing the vehicle for towing a trailer. Read the entire section before towing a trailer.

For towing a disabled vehicle, see *Towing the Vehicle on page 10-69*. For towing the vehicle behind another vehicle such as a motor home, see *Recreational Vehicle Towing on page 10-70*.

Driving Characteristics and Towing Tips

Driving with a Trailer

When towing a trailer:

- Become familiar with the state and local laws that apply specifically to trailer towing.
- Do not tow a trailer during the first 800 km (500 miles), to prevent damage to the engine, axle or other parts.
- Then, during the first 800 km (500 miles) trailer towing, do not drive over 80 km/h (50 mph) and do not make starts at full throttle.
- The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.
- Do not use the Fuel Economy Mode when towing.

⚠ WARNING

When towing a trailer, exhaust gases may collect at the rear of the vehicle and enter if the liftgate, trunk/hatch, or rear-most window is open.

When towing a trailer:

- Do not drive with the liftgate, trunk/hatch, or rear-most window open.
- Fully open the air outlets on or under the instrument panel.
- Also adjust the Climate Control system to a setting that brings in only outside air. See “Climate Control Systems” in the Index.

For more information about Carbon Monoxide, see *Engine Exhaust on page 9-25*.

Information Provided by: DEALER E-PROCESS

Towing a trailer requires a certain amount of experience. The combination you are driving is longer and not as responsive as the vehicle itself. Get acquainted with the handling and braking of the rig before setting out for the open road.

Before starting, check all trailer hitch parts and attachments, safety chains, electrical connectors, lamps, tires and mirrors. If the trailer has electric brakes, start the combination moving and then apply the trailer brake controller by hand to be sure the brakes work.

During the trip, check occasionally to be sure that the load is secure and the lamps and any trailer brakes still work.

Towing with a Stability Control System

When towing, the sound of the stability control system might be heard. The system is reacting to the vehicle movement caused by the trailer, which mainly occurs during cornering. This is normal when towing heavier trailers.

Following Distance

Stay at least twice as far behind the vehicle ahead as you would when driving the vehicle without a trailer. This can help to avoid situations that require heavy braking and sudden turns.

Passing

More passing distance is needed when towing a trailer. Because the rig is longer, it is necessary to go farther beyond the passed vehicle before returning to the lane.

Backing Up

Hold the bottom of the steering wheel with one hand. To move the trailer to the left, move your hand to the left. To move the trailer to the right, move your hand to the right. Always back up slowly and, if possible, have someone guide you.

Information Provided by: DEALER E-PROCESS

Making Turns

Notice: **Making very sharp turns while trailering could cause the trailer to come in contact with the vehicle. The vehicle could be damaged. Avoid making very sharp turns while trailering.**

When turning with a trailer, make wider turns than normal so the trailer will not strike soft shoulders, curbs, road signs, trees or other objects. Use the turn signal well in advance and avoid jerky or sudden maneuvers.

Turn Signals When Towing a Trailer

The turn signal indicators on the instrument panel flash whenever signaling a turn or lane change. Properly hooked up, the trailer lamps also flash, telling other drivers the vehicle is turning, changing lanes or stopping.

When towing a trailer, the arrows on the instrument panel flash for turns even if the bulbs on the trailer are burned out. Check occasionally to be sure the trailer bulbs are still working.

Driving on Grades

Reduce speed and shift to a lower gear before starting down a long or steep downgrade. If the transmission is not shifted down, the brakes might have to be used so much that they would get hot and no longer work well.

The vehicle can tow in D (Drive). Use a lower gear if the transmission shifts too often.

When towing at high altitude on steep uphill grades, engine coolant boils at a lower temperature than at normal altitudes. If the engine is turned off immediately after towing at high altitude on steep uphill grades, the vehicle could show signs similar to engine overheating. To avoid this, let the engine run while parked, preferably on level ground, with the transmission in P (Park) for a few minutes before turning the engine off. If the overheat warning comes on, see *Engine Overheating on page 10-18*.

Parking on Hills

⚠ WARNING

Parking the vehicle on a hill with the trailer attached can be dangerous. If something goes wrong, the rig could start to move. People can be injured, and both the vehicle and the trailer can be damaged. When possible, always park the rig on a flat surface.

If parking the rig on a hill:

1. Press the brake pedal, but do not shift into P (Park) yet. Turn the wheels into the curb if facing downhill or into traffic if facing uphill.
2. Have someone place chocks under the trailer wheels.
3. When the wheel chocks are in place, release the brake pedal until the chocks absorb the load.
4. Reapply the brake pedal. Then apply the parking brake and shift into P (Park).
5. Release the brake pedal.

Leaving After Parking on a Hill

1. Apply and hold the brake pedal while you:
 - Start the engine.
 - Shift into a gear.
 - Release the parking brake.
2. Let up on the brake pedal.
3. Drive slowly until the trailer is clear of the chocks.
4. Stop and have someone pick up and store the chocks.

Information Provided by: DEALER E-PROCESS

Maintenance When Trailer Towing

The vehicle needs service more often when pulling a trailer. See the *Maintenance Schedule on page 11-3*. Things that are especially important in trailer operation are automatic transmission fluid, engine oil, axle lubricant, belts, cooling system and brake system. Inspect these before and during the trip.

Check periodically to see that all hitch nuts and bolts are tight.

Engine Cooling When Trailer Towing

The cooling system may temporarily overheat during severe operating conditions. See *Engine Overheating on page 10-18*.

Trailer Towing

Before pulling a trailer, there are three important considerations that have to do with weight:

- The weight of the trailer
- The weight of the trailer tongue
- The total weight on the vehicle's tires

Weight of the Trailer

How heavy can a trailer safely be?

Speed, altitude, road grades, outside temperature, special equipment, and the amount of tongue weight the vehicle can carry must be considered. See “Weight of the Trailer Tongue” later in this section.

Maximum trailer weight is calculated assuming only the driver is in the tow vehicle and it has all the required trailering equipment. The weight of additional optional equipment, passengers and cargo in the tow vehicle must be subtracted from the maximum trailer weight.

Use the following chart to determine how much the vehicle can weigh, based upon the vehicle model and options.

Information Provided by: DEALER e-PROCESS

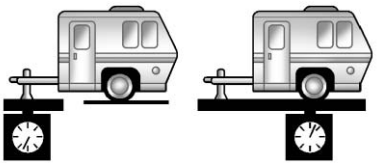
Vehicle	Maximum Trailer Weight with Trailer Brakes†	GCWR*
2.4L L4 Engine, FWD	680 kg (1,500 lbs)	2 625 kg (5,787 lbs)
2.4L L4 Engine, AWD	680 kg (1,500 lbs)	2 700 kg (5,952 lbs)
3.6L V6 Engine, FWD	1 588 kg (3,500 lbs)	3 600 kg (7,937 lbs)
3.6L V6 Engine, AWD	1 588 kg (3,500 lbs)	3 700 kg (8,157 lbs)
† For trailers without trailer brakes the maximum trailer weight is 454 kg (1,000 lbs). See *Towing Equipment on page 9-58*.		

*The Gross Combination Weight Rating (GCWR) is the total allowable weight of the completely loaded vehicle and trailer including any passengers, cargo, equipment and conversions. The GCWR for the vehicle should not be exceeded.

Ask your dealer for our trailering information or advice.

Weight of the Trailer Tongue

The tongue load (1) of any trailer is an important weight to measure because it affects the total gross weight of the vehicle. The Gross Vehicle Weight (GVW) includes the curb weight of the vehicle, any cargo carried in it, and the people who will be riding in the vehicle. If there are a lot of options, equipment, passengers or cargo in the vehicle, it will reduce the tongue weight the vehicle can carry, which will also reduce the trailer weight the vehicle can tow. If towing a trailer, the tongue load must be added to the GVW because the vehicle will be carrying that weight, too. See *Vehicle Load Limits on page 9-14*.



1 2

If a weight-carrying hitch or a weight-distributing hitch is being used, the trailer tongue (1) should weigh 10 to 15 percent of the total loaded trailer weight (2).

After loading the trailer, weigh the trailer and then the tongue, separately, to see if the weights are proper. If they are not, adjustments might be made by moving some items around in the trailer.

Trailering may be limited by the vehicle's ability to carry tongue weight. Tongue weight cannot cause the vehicle to exceed the GVWR

(Gross Vehicle Weight Rating) or the RGAWR (Rear Gross Axle Weight Rating). The effect of additional weight may reduce the trailering capacity more than the total of the additional weight.

It is important that the vehicle does not exceed any of its ratings — GCWR, GVWR, RGAWR, Maximum Trailer Rating or Tongue Weight. The only way to be sure it is not exceeding any of these ratings is to weigh the vehicle and trailer.

Total Weight on the Vehicle's Tires

Inflate the vehicle's tires to the upper limit for cold tires. These numbers can be found on the Certification label or see *Vehicle Load Limits on page 9-14* for more information. Do not go over the GVW limit for the vehicle, or the GAWR, including the weight of the trailer tongue. If using a weight distributing hitch, do not go over the rear axle limit before applying the weight distribution spring bars.

Towing Equipment

Hitches

Use the correct hitch equipment. See your dealer or a hitch dealer for assistance.

- The rear bumper on the vehicle is not intended for hitches. Do not attach rental hitches or other bumper-type hitches to it. Use only a frame-mounted hitch that does not attach to the bumper.
- Will any holes be made in the body of the vehicle when the trailer hitch is installed? If so, seal the holes when the hitch is removed. If the holes are not sealed, dirt, water, and deadly carbon monoxide (CO) from the exhaust can get into the vehicle. See *Engine Exhaust on page 9-25*.

Safety Chains

Always attach chains between the vehicle and the trailer. Cross the safety chains under the tongue of the trailer to help prevent the tongue from contacting the road if it becomes separated from the hitch. Leave enough slack so the rig can turn. Never allow safety chains to drag on the ground.

Trailer Brakes

Does the trailer have its own brakes? Be sure to read and follow the instructions for the trailer brakes so they are installed, adjusted, and maintained properly.

Because the vehicle has antilock brakes, do not tap into the vehicle's brake system. If this is done, both brake systems will not work well, or at all.

Trailer Sway Control (TSC)

The vehicle has a Trailer Sway Control (TSC) feature as part of the StabiliTrak system. If TSC detects that the trailer is swaying, the vehicle's brakes are automatically applied.

DEALER E-PROCESS



When TSC is applying the brakes, the TCS/StabiliTrak indicator light flashes to notify the driver to reduce speed. If the trailer continues to sway, StabiliTrak will reduce engine torque to help slow the vehicle.

TSC will not function if StabiliTrak is turned off. See *StabiliTrak® System on page 9-33*.

Conversions and Add-Ons

Add-On Electrical Equipment

Notice: **Some electrical equipment can damage the vehicle or cause components to not work and would not be covered by the warranty. Always check with your dealer before adding electrical equipment.**

Add-on equipment can drain the vehicle's 12-volt battery, even if the vehicle is not operating.

The vehicle has an airbag system. Before attempting to add anything electrical to the vehicle, see *Servicing the Airbag-Equipped Vehicle on page 3-30* and *Adding Equipment to the Airbag-Equipped Vehicle on page 3-30*.

Information Provided by: DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

Vehicle Care

General Information

General Information 10-2
California Proposition 65 Warning 10-2
California Perchlorate Materials Requirements 10-2
Accessories and Modifications 10-2

Vehicle Checks

Doing Your Own Service Work 10-3
Hood 10-4
Engine Compartment Overview 10-5
Engine Cover 10-8
Engine Oil 10-8
Engine Oil Life System 10-11
Automatic Transmission Fluid 10-12
Engine Air Cleaner/Filter 10-12
Cooling System 10-14
Engine Coolant 10-15
Engine Overheating 10-18
Power Steering Fluid (2.4L L4 Engine) 10-19
Power Steering Fluid (3.6L V6 Engine) 10-19
Washer Fluid 10-20
Brakes 10-21
Brake Fluid 10-22
Battery 10-23
All-Wheel Drive 10-23
Starter Switch Check 10-23
Automatic Transmission Shift Lock Control Function Check 10-24
Ignition Transmission Lock Check 10-24
Park Brake and P (Park) Mechanism Check 10-24
Wiper Blade Replacement 10-25

Headlamp Aiming

Headlamp Aiming 10-26

Bulb Replacement

Bulb Replacement 10-27
Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps 10-27
Fog Lamps 10-28
Taillamps, Turn Signal, Sidemarker, Stoplamps, and Back-Up Lamps 10-28
License Plate Lamp 10-30
Replacement Bulbs 10-31

Electrical System

Fuses 10-32
Engine Compartment Fuse Block 10-32
Instrument Panel Fuse Block 10-35

Wheels and Tires

Tires 10-38
All-Season Tires 10-38
Winter Tires 10-39
Summer Tires 10-39
Tire Sidewall Labeling 10-39
Tire Designations 10-42
Tire Terminology and Definitions 10-42
Tire Pressure 10-45
Tire Pressure Monitor System 10-46
Tire Pressure Monitor Operation 10-47
Tire Inspection 10-50
Tire Rotation 10-51

Information Provided by: DEALER E-PROCESS

When It Is Time for New Tires 10-52
Buying New Tires 10-53
Different Size Tires and Wheels 10-54
Uniform Tire Quality Grading 10-55
Wheel Alignment and Tire Balance 10-56
Wheel Replacement 10-56
Tire Chains 10-57
If a Tire Goes Flat 10-58
Tire Changing 10-59
Compact Spare Tire 10-66

Jump Starting
Jump Starting 10-67

Towing
Towing the Vehicle 10-69
Recreational Vehicle Towing 10-70

Appearance Care
Exterior Care 10-73
Interior Care 10-76
Floor Mats 10-79

General Information

For service and parts needs, visit your dealer. You will receive genuine GM parts and GM-trained and supported service people.

Genuine GM parts have one of these marks:

ACDelco

Genuine GM | Parts

GM Accessories

California Proposition 65 Warning

Most motor vehicles, including this one, contain and/or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Engine exhaust, many parts and systems, many fluids, and some component wear by-products contain and/or emit these chemicals.

California Perchlorate Materials Requirements

Certain types of automotive applications, such as airbag initiators, safety belt pretensioners, and lithium batteries contained in Remote Keyless Entry transmitters, may contain perchlorate materials. Special handling may be necessary. For additional information, see www.dtsc.ca.gov/hazardouswaste/perchlorate.

Accessories and Modifications

Adding non-dealer accessories or making modifications to the vehicle can affect vehicle performance and safety, including such things as airbags, braking, stability, ride and

DEALER E-PROCESS

handling, emissions systems, aerodynamics, durability, and electronic systems like antilock brakes, traction control, and stability control. These accessories or modifications could even cause malfunction or damage not covered by the vehicle warranty.

Damage to vehicle components resulting from modifications or the installation or use of non-GM certified parts, including control module or software modifications, is not covered under the terms of the vehicle warranty and may affect remaining warranty coverage for affected parts.

GM Accessories are designed to complement and function with other systems on the vehicle. See your dealer to accessorize the vehicle using genuine GM Accessories installed by a dealer technician.

Also, see *Adding Equipment to the Airbag-Equipped Vehicle on page 3-30*.

Vehicle Checks

Doing Your Own Service Work

⚠ WARNING

It can be dangerous to work on your vehicle if you do not have the proper knowledge, service manual, tools, or parts. Always follow owner manual procedures and consult the service manual for your vehicle before doing any service work.

If doing some of your own service work, use the proper service manual. It tells you much more about how to service the vehicle than this manual can. To order the proper service manual, see *Service Publications Ordering Information on page 13-17*.

This vehicle has an airbag system. Before attempting to do your own service work, see *Servicing the Airbag-Equipped Vehicle on page 3-30*.

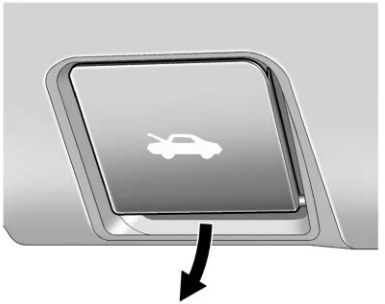
Keep a record with all parts receipts and list the mileage and the date of any service work performed. See *Maintenance Records on page 11-15*.

Notice: **Even small amounts of contamination can cause damage to vehicle systems. Do not allow contaminants to contact the fluids, reservoir caps, or dipsticks.**

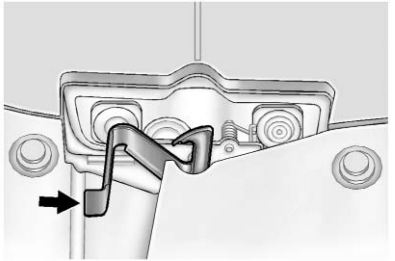
Information Provided by: DEALER E-PROCESS

Hood

To open the hood:



1. Pull the release handle located below the instrument panel to the left of the steering wheel.



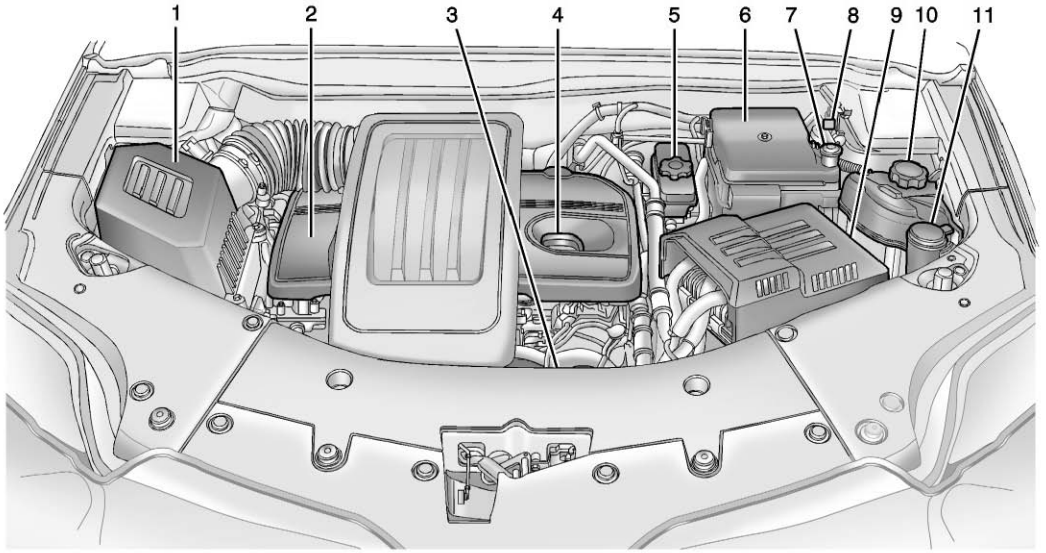
2. Move the secondary hood release lever to the right to release the striker. The lever is near the middle of the hood.
3. Lift the hood.

To close the hood:

1. Before closing the hood, be sure all the filler caps are on properly.
2. Lower the hood 30 cm (12 in) above the vehicle and release it so it fully latches. Check to make sure the hood is closed and repeat the process if necessary.

Information Provided by:
DEALER E-PROCESS

Engine Compartment Overview

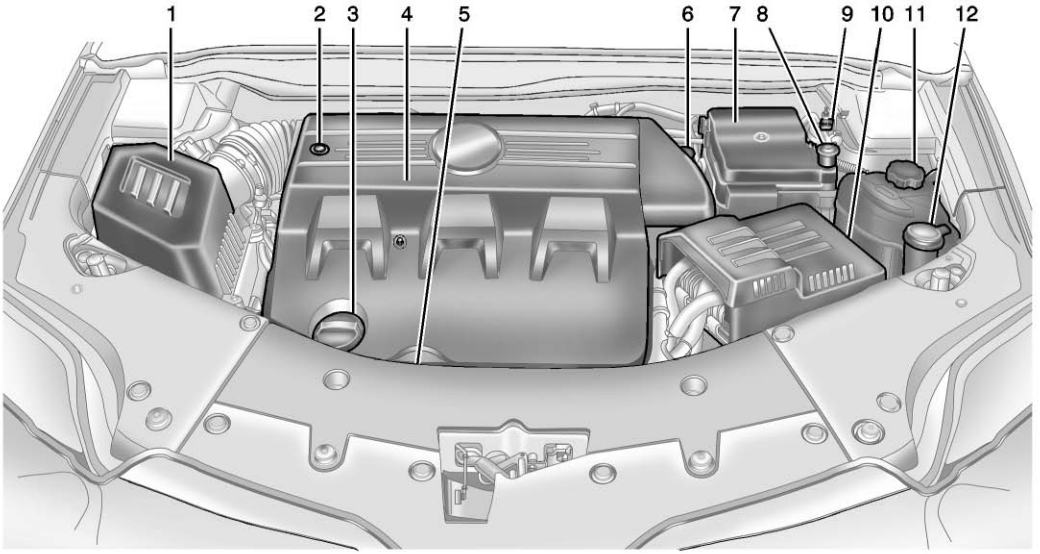


2.4L L4 Engine

Information Provided by:
DEALER E-PROCESS

1. *Engine Air Cleaner/Filter on page 10-12*.
2. *Engine Cover on page 10-8*.
3. Engine Oil Dipstick (Out of View). See *Engine Oil on page 10-8*.
4. Engine Oil Fill Cap. See *Engine Oil on page 10-8*.
5. Brake Fluid Reservoir. See *Brakes on page 10-21*.
6. *Engine Compartment Fuse Block on page 10-32*.
7. Remote Positive (+) Terminal. See *Jump Starting on page 10-67*.
8. Remote Negative (−) Terminal. See *Jump Starting on page 10-67*.
9. *Battery on page 10-23* (Out of View).
10. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant on page 10-15*.
11. Windshield Washer Fluid Reservoir. See *Washer Fluid on page 10-20*.

Information Provided by:
DEALER E-PROCESS

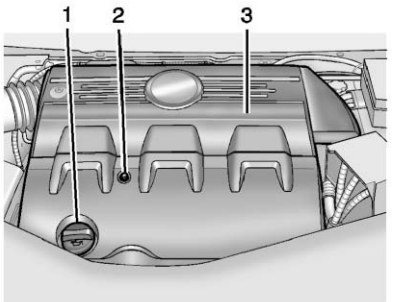


3.6L V6 Engine

Information Provided by:
DEALER E-PROCESS

1. *Engine Air Cleaner/Filter on page 10-12*.
2. Power Steering Fluid Reservoir (Under Engine Cover). See *Power Steering Fluid (2.4L L4 Engine) on page 10-19* or *Power Steering Fluid (3.6L V6 Engine) on page 10-19*.
3. Engine Oil Fill Cap. See *Engine Oil on page 10-8*.
4. *Engine Cover on page 10-8*.
5. Engine Oil Dipstick (Out of View). See *Engine Oil on page 10-8*.
6. Brake Fluid Reservoir. See *Brakes on page 10-21*.
7. *Engine Compartment Fuse Block on page 10-32*.
8. Remote Positive (+) Terminal. See *Jump Starting on page 10-67*.
9. Remote Negative (−) Terminal. See *Jump Starting on page 10-67*.
10. *Battery on page 10-23* (Out of View).
11. Engine Coolant Surge Tank and Pressure Cap. See *Engine Coolant on page 10-15*.
12. Windshield Washer Fluid Reservoir. See *Washer Fluid on page 10-20*.

Engine Cover



Engine Cover 3.6L V6

1. Oil Fill Cap
2. Engine Cover Bolt
3. Engine Cover

To remove:

1. Remove the oil fill cap (1).
2. Remove the engine cover bolt (2).
3. Raise the engine cover (3) to release from the retainers.
4. Lift and remove the engine cover.
5. Reverse Steps 1–4 to reinstall engine cover.

Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Always use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.

Information Provided by: DEALER E-PROCESS

- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System on page 10-11*.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking Engine Oil

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a loop. See *Engine Compartment Overview on page 10-5* for the location of the engine oil dipstick.

Obtaining an accurate oil level reading is essential:

1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.

⚠ WARNING

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil



2.4L L4 Engine



3.6L V6 Engine

If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See “Selecting the Right Engine Oil” in this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 12-2*.

Information Provided by: DEALER E-PROCESS

Notice: **Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.**

See *Engine Compartment Overview on page 10-5* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants on page 11-12*.

Specification

Use and ask for licensed engine oils with the dexos1® approved certification mark. Engine oils meeting the requirements for the vehicle should have the dexos1 approved certification mark. This certification mark indicates that the oil has been approved to the dexos1 specification.

Notice: **Failure to use the recommended engine oil or equivalent can result in engine damage not covered by the vehicle warranty. Check with your dealer or service provider on whether the oil is approved to the dexos1 specification.**

Viscosity Grade

SAE 5W-30 is the best viscosity grade for the vehicle. Do not use other viscosity grade oils such as SAE 10W-30, 10W-40, or 20W-50.

Cold Temperature Operation: In an area of extreme cold, where the temperature falls below −29°C (−20°F), an SAE 0W-30 oil may be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, always select an oil of the correct specification. See “Specification” earlier in this section for more information.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the dexos specification and displaying the dexos certification mark are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

Engine Oil Life System

When to Change Engine Oil

This vehicle has a computer system that indicates when to change the engine oil and filter. This is based on a combination of factors which include engine revolutions, engine temperature, and miles driven. Based on driving conditions, the mileage at which an oil change is indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it indicates that an oil change is necessary. A CHANGE ENGINE OIL SOON message comes on. See *Engine Oil Messages on page 5-26*. Change the oil as soon as possible within the next 1 000 km (600 mi). It is possible that, if driving under the best conditions, the oil life system might indicate that an oil change is not necessary for up to a year. The engine oil and filter must be changed at least once a year and, at this time, the system must be reset. Your dealer has trained service people who will perform this work and reset the system. It is also important to check the oil regularly over the course of an oil drain interval and keep it at the proper level.

If the system is ever reset accidentally, the oil must be changed at 5 000 km (3,000 mi) since the last oil change. Remember to reset the oil life system whenever the oil is changed.

Information Provided by: DEALER E-PROCESS

How to Reset the Engine Oil Life System

Reset the system whenever the engine oil is changed so that the system can calculate the next engine oil change. To reset the system:

1. Turn the ignition to ON/RUN, with the engine off.
2. Press the DIC MENU button to display the Vehicle Information menu.
3. Press either the up or down arrows to view REMAINING OIL LIFE.
4. Press the SET/CLR button until 100% is displayed.
5. Turn the key to LOCK/OFF.

Or:

1. Turn the ignition to ON/RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds.

The system is reset when the CHANGE ENGINE OIL SOON message goes off.

If the CHANGE ENGINE OIL SOON message comes back on when the vehicle is started, the engine oil life system has not been reset. Repeat the procedure.

Automatic Transmission Fluid

How to Check Automatic Transmission Fluid

It is not necessary to check the transmission fluid level.
A transmission fluid leak is the only reason for fluid loss. If a leak occurs, take the vehicle to your dealer and have it repaired as soon as possible.

There is a special procedure for checking and changing the transmission fluid. Because this procedure is difficult, this should be done at your dealer. Contact your dealer for additional information or the procedure can be found in the service manual. To purchase a service manual, see *Service Publications Ordering Information on page 13-17*.

Change the fluid and filter at the intervals listed in *Maintenance Schedule on page 11-3*, and be sure to use the fluid listed in *Recommended Fluids and Lubricants on page 11-12*.

Engine Air Cleaner/Filter

See *Engine Compartment Overview on page 10-5* for the location of the engine air cleaner/filter.

When to Inspect the Engine Air Cleaner/Filter

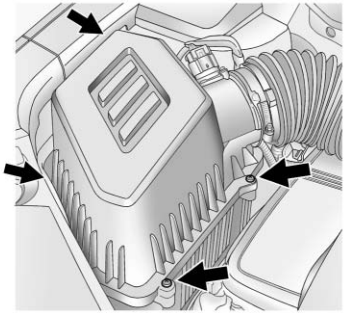
Inspect or replace the air cleaner/filter at the scheduled maintenance intervals. See *Maintenance Schedule on page 11-3* for more information. If driving in dusty/dirty conditions, inspect the filter at each engine oil change.

How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the filter from the vehicle and lightly shake the filter to release loose dust and dirt. If the filter remains covered with dirt, a new filter is required. Never use compressed air to clean the filter.

To inspect or replace the engine air cleaner/filter:

1. Open the hood. See *Hood on page 10-4*.
2. Locate the air filter housing on the passenger side of the engine compartment. See *Engine Compartment Overview on page 10-5*.



3. Remove the four air cleaner housing cover screws.
4. Pull straight up on the cover, and while holding the cover, remove the air cleaner filter.
5. Inspect or replace the air cleaner filter.

How to Reinstall Engine Air Cleaner/Filter

1. Install the air cleaner filter into the air cleaner housing. The outer air cleaner filter seal must be fitted properly in the air cleaner housing.
2. Align the air cleaner housing cover tabs to the air cleaner housing.
3. Install the air cleaner housing cover using the four screws.

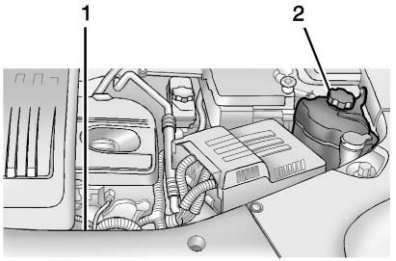
⚠ WARNING

Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Notice: **If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.**

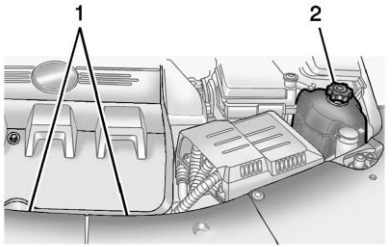
Powered by: DEALER E-PROCESS

Cooling System



2.4L L4 Engine

1. Engine Cooling Fan (Out of View)
2. Engine Coolant Surge Tank and Pressure Cap



3.6L V6 Engine

1. Engine Cooling Fans (Out of View)
2. Engine Coolant Surge Tank and Pressure Cap

⚠ WARNING

An electric engine cooling fan under the hood can start up even when the engine is not running and can cause injury. Keep hands, clothing, and tools away from any underhood electric fan.

If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. The vehicle should be parked on a level surface.

The coolant level should be at the COLD FILL line. If it is not, the vehicle may have a leak at the radiator hoses, heater hoses, radiator, water pump, or somewhere else in the cooling system.

⚠ WARNING

Heater and radiator hoses, and other engine parts, can be very hot. Do not touch them. If you do, you can be burned.

Do not run the engine if there is a leak. If you run the engine, it could lose all coolant. That could cause an engine fire, and you could be burned. Get any leak fixed before you drive the vehicle.

Information Provided by DEALER e-PROCESS

If there seems to be no leak, with the engine on, check to see if the electric engine cooling fan is running. If the engine is overheating, the fan should be running. If it is not, the vehicle needs service. Turn off the engine.

Notice: **Using coolant other than DEX-COOL® can cause premature engine, heater core, or radiator corrosion. In addition, the engine coolant could require changing sooner, at 50 000 km (30,000 mi) or 24 months, whichever occurs first. Any repairs would not be covered by the vehicle warranty. Always use DEX-COOL (silicate-free) coolant in the vehicle.**

Engine Coolant

The cooling system in the vehicle is filled with DEX-COOL® engine coolant. This coolant is designed to remain in the vehicle for 5 years or 240 000 km (150,000 mi), whichever occurs first.

The following explains the cooling system and how to check and add coolant when it is low. If there is a problem with engine overheating, see *Engine Overheating on page 10-18*.

What to Use

⚠ WARNING

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will. The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

Information Provided by: DEALER e-PROCESS

Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant. If using this mixture, nothing else needs to be added. This mixture:

- Gives freezing protection down to −37°C (−34°F), outside temperature.
- Gives boiling protection up to 129°C (265°F), engine temperature.
- Protects against rust and corrosion.
- Will not damage aluminum parts.
- Helps keep the proper engine temperature.

Notice: **If an improper coolant mixture is used, the engine could overheat and be badly damaged. The repair cost would not be covered by the vehicle warranty. Too much water in the mixture can freeze and crack the engine, radiator, heater core, and other parts.**

Never dispose of engine coolant by putting it in the trash, pouring it on the ground, or into sewers, streams, or bodies of water. Have the coolant changed by an authorized service center, familiar with legal requirements regarding used coolant disposal. This will help protect the environment and your health.

Checking Coolant

The vehicle must be on a level surface when checking the coolant level.

Check to see if coolant is visible in the coolant surge tank. If the coolant inside the coolant surge tank is boiling, do not do anything else until it cools down. If coolant is visible but the coolant level is not at or above the COLD FILL line, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system is cool before this is done. See *Cooling System on page 10-14* for more information.

The coolant surge tank is in the engine compartment on the driver side of the vehicle. See *Engine Compartment Overview on page 10-5*.

How to Add Coolant to the Coolant Surge Tank

Notice: **This vehicle has a specific coolant fill procedure. Failure to follow this procedure could cause the engine to overheat and be severely damaged.**

If you have not found a problem yet, check to see if coolant is visible in the coolant surge tank. If coolant is visible but the coolant level is not at the COLD FILL line, add a 50/50 mixture of clean, drinkable water and DEX-COOL coolant at the coolant surge tank, but be sure the cooling system, including the coolant surge tank pressure cap, is cool before you do it. See *Engine Overheating on page 10-18* for more information.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Steam and scalding liquids from a hot cooling system can blow out and burn you badly. They are under pressure, and if you turn the coolant surge tank pressure cap — even a little — they can come out at high speed. Never turn the cap when the cooling system, including the coolant surge tank pressure cap, is hot. Wait for the cooling system and coolant surge tank pressure cap to cool if you ever have to turn the pressure cap.

⚠ WARNING

Adding only plain water or some other liquid to the cooling system can be dangerous. Plain water and other liquids, can boil before the proper coolant mixture will.

(Continued)

WARNING (CONTINUED)

The coolant warning system is set for the proper coolant mixture. With plain water or the wrong mixture, the engine could get too hot but you would not get the overheat warning. The engine could catch fire and you or others could be burned. Use a 50/50 mixture of clean, drinkable water and DEX-COOL coolant.

⚠ WARNING

You can be burned if you spill coolant on hot engine parts. Coolant contains ethylene glycol and it will burn if the engine parts are hot enough. Do not spill coolant on a hot engine.

Notice: **In cold weather, water can freeze and crack the engine, radiator, heater core and other parts. Use the recommended coolant and the proper coolant mixture.**

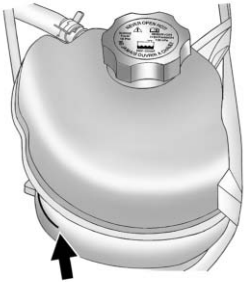


1. Remove the coolant surge tank pressure cap when the cooling system, including the coolant surge tank pressure cap and upper radiator hose, is no longer hot.

 Turn the pressure cap slowly counterclockwise about one-quarter of a turn. If you hear a hiss, wait for that to stop. This will allow any pressure still left to be vented out the discharge hose.

2. Keep turning the pressure cap slowly, and remove it.

Information Provided by: DEALER E-PROCESS



3. Fill the coolant surge tank with the proper DEX-COOL coolant mixture, to the COLD FILL line.
4. With the coolant surge tank pressure cap off, start the engine and let it run until the upper radiator hose can be felt getting hot. Watch out for the engine cooling fan(s).

 By this time, the coolant level inside the coolant surge tank may be lower. If the level is lower, add more of the proper DEX-COOL coolant mixture to

the coolant surge tank until the level reaches the COLD FILL line.

5. Replace the pressure cap. Be sure the pressure cap is hand-tight.

Check the level in the coolant surge tank when the cooling system has cooled down. If the coolant is not at the proper level, repeat Steps 1–3 and reinstall the pressure cap. If the coolant still is not at the proper level when the system cools down again, see your dealer.

Engine Overheating

The vehicle has an indicator to warn of engine overheating. There is an engine coolant temperature warning light on the vehicle's instrument panel. See *Engine Coolant Temperature Gauge on page 5-9*.

The decision may be made not to lift the hood when this warning appears, but instead get service help right away. See *Roadside Assistance Program (Mexico) on page 13-7* or *Roadside Assistance Program (U.S. and Canada) on page 13-11*.

If the decision to lift the hood is made, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fan(s) are running. If the engine is overheating, the fan(s) should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

Notice: **Engine damage from running the engine without coolant is not covered by the warranty.**

If Steam is Coming from the Engine Compartment

⚠ WARNING

Steam from an overheated engine can burn you badly, even if you just open the hood. Stay away from the engine if you see or hear

(Continued)

Information Provided by DEALER E-PROCESS

WARNING (CONTINUED)

steam coming from it. Just turn it off and get everyone away from the vehicle until it cools down. Wait until there is no sign of steam or coolant before you open the hood.

If you keep driving when the engine is overheated, the liquids in it can catch fire. You or others could be badly burned. Stop the engine if it overheats, and get out of the vehicle until the engine is cool.

If No Steam is Coming from the Engine Compartment

If an engine overheat warning is displayed but no steam can be seen or heard, the problem may not be too serious. Sometimes the engine can get a little too hot when the vehicle:

- Climbs a long hill on a hot day.

- Stops after high-speed driving.
- Idles for long periods in traffic.
- Tows a trailer.

If the overheat warning is displayed with no sign of steam:

1. Turn the air conditioning off.
2. Turn the heater on to the highest temperature and to the highest fan speed. Open the windows as necessary.
3. In heavy traffic, let the engine idle in N (Neutral) while stopped. If it is safe to do so, pull off the road, shift to P (Park) or N (Neutral) and let the engine idle.

If the temperature overheat gauge is no longer in the overheat zone or an overheat warning no longer displays, the vehicle can be driven. Continue to drive the vehicle slowly for about 10 minutes. Keep a safe vehicle distance from the vehicle in front. If the warning does not come back on, continue to drive normally.

If the warning continues, pull over, stop, and park the vehicle right away.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Power Steering Fluid (2.4L L4 Engine)

The vehicle has electric power steering and does not use power steering fluid.

Power Steering Fluid (3.6L V6 Engine)



Information Provided by: DEALER E-PROCESS

The power steering fluid reservoir is located toward the rear of the engine compartment on the passenger side of the vehicle. See *Engine Compartment Overview on page 10-5* for reservoir location.

When to Check Power Steering Fluid

The power steering fluid does not need to be checked unless there is a leak in the system or you hear an unusual noise. Have the system inspected and repaired if there is a fluid loss.

How to Check Power Steering Fluid

To check the power steering fluid:

1. Turn the engine off and let it cool down.
2. Remove the engine cover. Refer to *Engine Cover on page 10-8*.
3. Wipe the cap and the top of the reservoir clean.

4. Unscrew the cap and wipe the dipstick with a clean rag.
5. Replace the cap and completely tighten it.
6. Remove the cap again and look at the fluid level on the dipstick.

The fluid level should be between MAX and MIN line at room temperature. If the fluid is on or below MIN line, add fluid.

What to Use

To determine what kind of fluid to use, refer to *Recommended Fluids and Lubricants on page 11-12*. Always use the proper fluid.

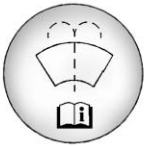
Notice: **Use of the incorrect fluid may damage the vehicle and the damages may not be covered by the vehicle's warranty. Always use the correct fluid listed in *Recommended Fluids and Lubricants on page 11-12*.**

Washer Fluid

What to Use

Read the manufacturer's instructions before refilling the windshield washer fluid. If operating the vehicle in an area where the temperature may fall below freezing, use a fluid that has sufficient protection against freezing.

Adding Washer Fluid



Open the cap with the washer symbol on it and add washer fluid until full. See *Engine Compartment Overview on page 10-5* for reservoir location.

Notice

- **When using concentrated washer fluid, follow the manufacturer instructions for adding water.**
- **Do not mix water with ready-to-use washer fluid. Water can cause the solution to freeze and damage the washer fluid tank and other parts of the washer system.**
- **Fill the washer fluid tank only three-quarters full when it is very cold. This allows for fluid expansion if freezing occurs, which could damage the tank if it is completely full.**
- **Do not use engine coolant (antifreeze) in the windshield washer. It can damage the windshield washer system and paint.**

Information Provided by: DEALER E-PROCESS

Brakes

This vehicle has disc brakes. Disc brake pads have built-in wear indicators that make a high-pitched warning sound when the brake pads are worn and new pads are needed. The sound can come and go or be heard all the time the vehicle is moving, except when applying the brake pedal firmly.

⚠ WARNING

The brake wear warning sound means that soon the brakes will not work well. That could lead to a crash. When the brake wear warning sound is heard, have the vehicle serviced.

Notice: **Continuing to drive with worn-out brake pads could result in costly brake repair.**

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications in *Capacities and Specifications on page 12-2*.

Brake linings should always be replaced as complete axle sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service might be required.

Brake Adjustment

Every time the brakes are applied, with or without the vehicle moving, the brakes adjust for wear.

Replacing Brake System Parts

The braking system on a vehicle is complex. Its many parts have to be of top quality and work well together if the vehicle is to have really good braking. The vehicle was designed and tested with top-quality brake parts. When parts of the braking system are replaced, be sure to get new, approved replacement parts. If this is not done, the brakes might not work properly. For example, installing disc brake pads that are wrong for the vehicle, can change the balance between the front and rear brakes — for the worse. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed.

Information Provided by: DEALER E-PROCESS

Brake Fluid



The brake master cylinder reservoir is filled with DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview on page 10-5* for the location of the reservoir.

There are only two reasons why the brake fluid level in the reservoir might go down:

- The brake fluid level goes down because of normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake hydraulic system can also cause a low fluid level. Have the brake hydraulic system fixed, since a leak means that sooner or later the brakes will not work well.

Do not top off the brake fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove brake fluid, as necessary, only when work is done on the brake hydraulic system.

⚠ WARNING

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake hydraulic system.

When the brake fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light on page 5-14*.

Provided by: DEALER E-PROCESS

What to Add

Use only new DOT 3 brake fluid from a sealed container. See *Recommended Fluids and Lubricants on page 11-12*.

Always clean the brake fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

⚠ WARNING

With the wrong kind of fluid in the brake hydraulic system, the brakes might not work well. This could cause a crash. Always use the proper brake fluid.

Notice

- **Using the wrong fluid can badly damage brake hydraulic system parts. For example, just a few drops of mineral-based oil, such as engine oil, in the brake**

hydraulic system can damage brake hydraulic system parts so badly that they will have to be replaced. Do not let someone put in the wrong kind of fluid.

- **If brake fluid is spilled on the vehicle's painted surfaces, the paint finish can be damaged. Be careful not to spill brake fluid on the vehicle. If you do, wash it off immediately.**

Battery

Refer to the replacement number on the original battery label when a new battery is needed.

⚠ WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Vehicle Storage

⚠ WARNING

Batteries have acid that can burn you and gas that can explode. You can be badly hurt if you are not careful. See *Jump Starting on page 10-67* for tips on working around a battery without getting hurt.

Infrequent Usage: Remove the black, negative (−) cable from the battery to keep the battery from running down.

Extended Storage: Remove the black, negative (−) cable from the battery or use a battery trickle charger.

All-Wheel Drive

Transfer Case

Under normal driving conditions, transfer case fluid does not require changing or checking unless there is a fluid leak or unusual noise. If required, have the transfer case serviced by your dealer.

Starter Switch Check

⚠ WARNING

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle.
2. Firmly apply both the parking brake and the regular brake. See *Parking Brake on page 9-31*.

 Do not use the accelerator pedal, and be ready to turn off the engine immediately if it starts.

3. Try to start the engine in each gear. The vehicle should start only in P (Park) or N (Neutral). If the vehicle starts in any other position, contact your dealer for service.

Automatic Transmission Shift Lock Control Function Check

⚠ WARNING

When you are doing this inspection, the vehicle could move suddenly. If the vehicle moves, you or others could be injured.

1. Before starting this check, be sure there is enough room around the vehicle. It should be parked on a level surface.
2. Firmly apply the parking brake. See *Parking Brake on page 9-31*.

 Be ready to apply the regular brake immediately if the vehicle begins to move.
3. With the engine off, turn the ignition on, but do not start the engine. Without applying the regular brake, try to move the shift lever out of P (Park) with normal effort. If the shift lever moves out of P (Park), contact your dealer for service.

Ignition Transmission Lock Check

While parked, and with the parking brake set, try to turn the ignition to LOCK/OFF in each shift lever position.

- The ignition should turn to LOCK/OFF only when the shift lever is in P (Park).
- The ignition key should come out only in LOCK/OFF.

Contact your dealer if service is required.

Park Brake and P (Park) Mechanism Check

⚠ WARNING

When you are doing this check, the vehicle could begin to move. You or others could be injured and property could be damaged. Make sure there is room in front of the vehicle in case it begins to roll. Be ready to apply the regular brake at once should the vehicle begin to move.

Information Provided by: DEALER e-PROCESS

Park on a fairly steep hill, with the vehicle facing downhill. Keeping your foot on the regular brake, set the parking brake.

- To check the parking brake's holding ability: With the engine running and the transmission in N (Neutral), slowly remove foot pressure from the regular brake pedal. Do this until the vehicle is held by the parking brake only.
- To check the P (Park) mechanism's holding ability: With the engine running, shift to P (Park). Then release the parking brake followed by the regular brake.

Contact your dealer if service is required.

Wiper Blade Replacement

Windshield wiper blades should be inspected for wear and cracking. See *Maintenance Schedule on page 11-3*.

Replacement blades come in different types and are removed in different ways. For proper type and length, see *Maintenance Replacement Parts on page 11-13*.

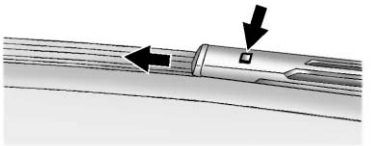
Notice: **Allowing the wiper arm to touch the windshield when no wiper blade is installed could damage the windshield. Any damage that occurs would not be covered by your warranty. Do not allow the wiper arm to touch the windshield.**

Front Wiper Blade Replacement

To replace the front wiper blades:

1. Lift the wiper arm from the windshield until no further movement is possible.

Information Provided by: DEALER E-PROCESS



2. Press the square button on the top side, at the end of the wiper arm, and pull the wiper blade out of the end of the wiper arm.
3. Install the wiper blade connector by sliding into the end of the wiper arm until the square button on the wiper blade clicks into place with the wiper arm.
4. Place the wiper arm with the wiper blade in place back on the windshield.

Rear Wiper Blade Replacement

The rear wiper blade and wiper arm have a cover for protection. The cover must be removed before the wiper blade can be replaced.

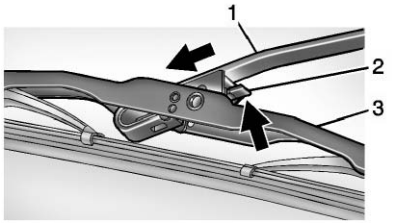
To remove the cover:



1. Slide a plastic tool under the cover and push upward to unsnap.
2. Slide the cover towards the wiper blade tip to unhook it from the blade assembly.
3. Remove the cover.
4. After wiper blade replacement, ensure that cover hook slides into the slot in the blade assembly.
5. Snap the cover down to secure.

To replace the wiper blade:

1. Lift the wiper arm away from the windshield.



2. Push the release lever (2) to disengage the hook and push the wiper arm (1) out of the blade assembly (3).
3. Push the new blade assembly securely on the wiper arm until the release lever clicks into place.
4. Replace the wiper cover.

Headlamp Aiming

Headlamp aim has been preset and should need no further adjustment.

If the vehicle is damaged in a crash, the headlamp aim may be affected. If adjustment to the headlamps is necessary, see your dealer.

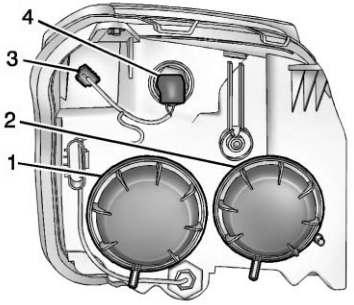
Information Provided by:
DEALER E-PROCESS

Bulb Replacement

For the proper type of replacement bulbs, see *Replacement Bulbs on page 10-31*.

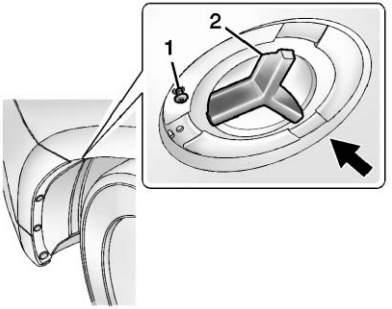
For any bulb changing procedure not listed in this section, contact your dealer.

Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps



1. Low-Beam Headlamp
2. High-Beam Headlamp
3. Sidemarker Lamp
4. Park/Turn Signal Lamp

To replace one of these bulbs:



1. Turn the tire to reach the access port cap located in the front of wheel well cover.
2. Remove the screw (1) and turn the access port cap (2) counterclockwise to remove.
3. If replacing a headlamp bulb, remove the dust cover cap from the back of the headlamp housing by turning the cap counterclockwise.
4. Turn the bulb socket counterclockwise to remove it from the lamp assembly.
5. Remove the bulb from the socket or disconnect the bulb assembly from the harness connector.
6. Install the new bulb.
7. Reinstall the bulb socket to the lamp assembly, turning clockwise.
8. Replace the dust cover cap on headlamps.
9. Reinstall the wheel well cover access port cap and secure by installing the screw.

Information Provided by: DEALER E-PROCESS

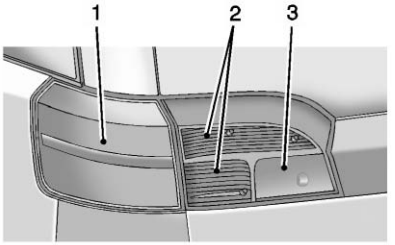
Fog Lamps

To replace one of these bulbs:



1. Locate the fog lamp assembly under the front fascia.
2. Disconnect the bulb socket from the electrical connector, turn, and pull out the bulb assembly.
3. Remove the old bulb from the bulb socket and push the new bulb straight into the bulb socket until it connects.
4. Push the bulb socket into the fog lamp assembly and turn clockwise to lock it into place.
5. Reconnect the bulb socket to the electrical connector.

Taillamps, Turn Signal, Sidemarker, Stoplamps, and Back-Up Lamps



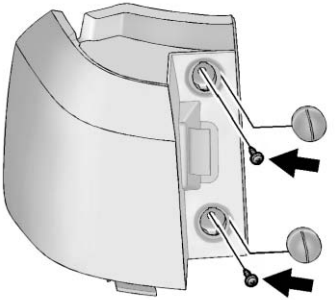
1. Stop/Tail/Turn Signal/ Sidemarker Lamp
2. Auxiliary Taillamp
3. Back-up Lamp

Information Provided by: DEALER E-PROCESS

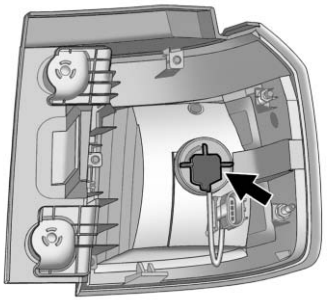
Stop/Tail/Turn Signal/ Sidemarker Lamp

To replace one of these lamps:

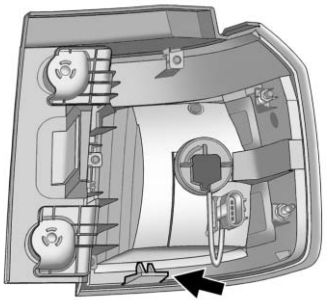
1. Open the liftgate. See *Liftgate on page 2-8*.
2. Remove the two screw covers from the taillamp assembly.



3. Remove the two screws securing the taillamp assembly.
4. Pull the taillamp assembly out of the vehicle body.
5. Disconnect the lamp wiring harness.



6. Turn the bulb socket counterclockwise and pull it out.
7. Pull the bulb straight out of the socket.
8. Install the new bulb.
9. Push the bulb socket in and turn it clockwise.
10. Reverse Steps 2–5 to reinstall the lamp assembly.

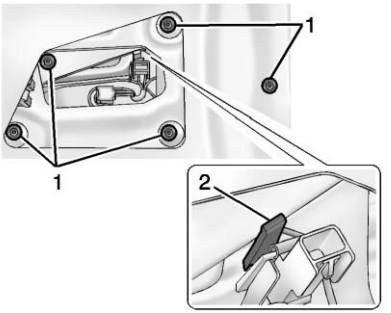


11. Verify that the taillamp assembly tab, located at the bottom of the taillamp assembly, is aligned to the fascia bracket before securing with screws.

Auxiliary Taillamp

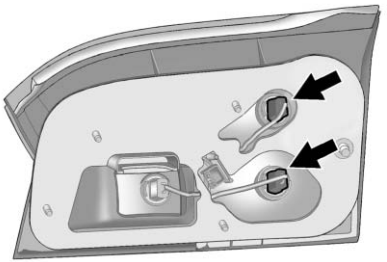
To replace one of these lamps:

1. Open the liftgate. See *Liftgate on page 2-8*.
2. Remove the interior trim access panel.



3. Remove the five attachment nuts (1) securing the taillamp assembly to the liftgate.
4. Disengage the retaining hook (2) and pull the taillamp assembly out of the vehicle liftgate.
5. Disconnect the lamp wiring harness.

Information Provided by:
DEALER E-PROCESS



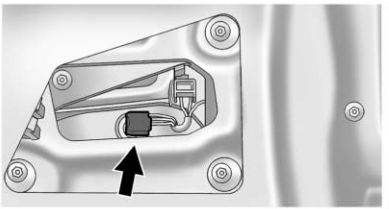
6. Turn the bulb socket counterclockwise and pull it out.
7. Pull the bulb straight out of the socket.
8. Install the new bulb.
9. Push the bulb socket in and turn it clockwise.
10. Reverse Steps 2–5 to reinstall lamp assembly.

Back–Up Lamp

Removal of the lamp assembly is not required to replace the back-up lamp bulb.

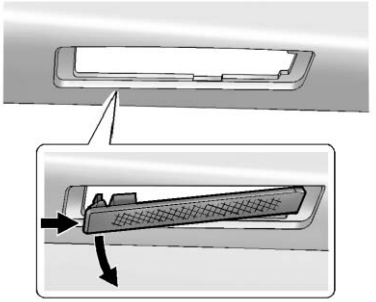
To replace one of these lamps:

1. Open the liftgate. See *Liftgate on page 2-8*.
2. Remove the interior trim access panel.



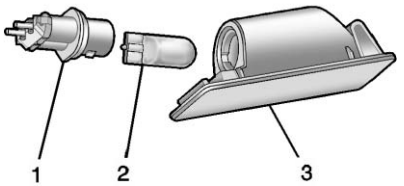
3. Turn the bulb socket counterclockwise and pull it out.
4. Pull the bulb straight out of the socket.
5. Install the new bulb.
6. Push the bulb socket in and turn it clockwise.
7. Reinstall the interior trim access panel.

License Plate Lamp



Lamp Assembly

Information Provided by: DEALER E-PROCESS



Bulb Assembly

1. Bulb Socket
2. Bulb
3. Lamp Assembly

To replace one of these bulbs:

1. Open the liftgate partway. See *Liftgate on page 2-8*.
2. Push the left end of the lamp assembly toward the right.
3. Pull the lamp assembly down to remove it from the liftgate.
4. Turn the bulb socket (1) counterclockwise to remove it from the lamp assembly (3).
5. Pull the bulb (2) straight out of the bulb socket (1).
6. Push the replacement bulb straight into the bulb socket and turn the bulb socket clockwise to install it into the lamp assembly.
7. Push the lamp assembly into the liftgate engaging the clip side first.
8. Push on the lamp side opposite the clip until the lamp assembly snaps into place.

Replacement Bulbs

Exterior Lamp	Bulb Number
Auxiliary Taillamp	161
Back-Up Lamp	921
Fog Lamp	H11 LL
Headlamp High Beam	9005LL
Headlamp Low Beam	H11 LL
License Plate Lamp	W5WLL
Parking Lamp/Turn Signal Front	7444NA
Sidemarker Front	194
Taillamp/Turn Signal Lamp/Stop Lamp/ Sidemarker	3057K RD

For replacement bulbs not listed here, contact your dealer.

Information Provided by: DEALER E-PROCESS

Electrical System

Fuses

The wiring circuits in the vehicle are protected from short circuits by fuses. This greatly reduces the chance of damage caused by electrical problems.

Look at the silver-colored band inside the fuse. If the band is broken or melted, replace the fuse. Be sure to replace a bad fuse with a new one of the identical size and rating.

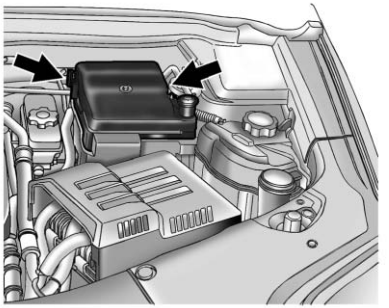
Replace a bad fuse with a new one of the identical size and rating.

If there is a problem on the road and a fuse needs to be replaced, the same amperage fuse can be borrowed. Choose some feature of the vehicle that is not needed to use and replace it as soon as possible.

There are two fuse blocks in the vehicle: one in the engine compartment and one in the instrument panel.

There is a fuse puller located in the engine compartment fuse block. See *Engine Compartment Fuse Block on page 10-32*. It can be used to easily remove fuses from the fuse block.

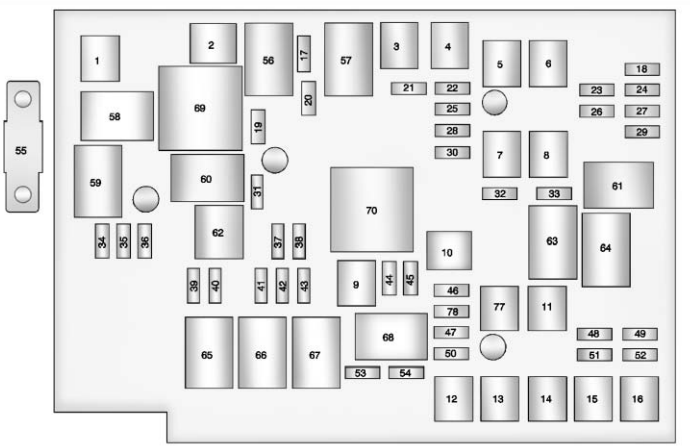
Engine Compartment Fuse Block



To remove the fuse block cover, squeeze the clips on the cover and lift it straight up. See *Engine Compartment Overview on page 10-5*.

Notice: **Spilling liquid on any electrical component on the vehicle may damage it. Always keep the covers on any electrical component.**

Information Provided by: DEALER E-PROCESS



The vehicle may not be equipped with all of the fuses, relays, and features shown.

J-Case Fuses	Usage
1	Cool Fan 1
2	Cool Fan 2
3	Brake Booster

J-Case Fuses	Usage
4	Power Windows – Right
5	Memory Seat Module
6	Power Seat – Left

J-Case Fuses	Usage
7	Instrument Panel Fuse Block 1
8	Rear Defogger
9	Starter
10	AIR Pump Motor
11	Instrument Panel Fuse Block 2
12	Sunroof
13	Antilock Brake System Pump
14	Instrument Panel Fuse Block 3
15	Power Windows – Left
16	Antilock Brake System Module
77	Power Seat - Right

Information Provided by:
DEALER E-PROCESS

Mini Fuses	Usage
17	Transmission Control Module Battery
18	Trailer Parking Light
19	AIR Pump Solenoid
20	Engine Control Module Battery
21	Canister Vent
22	Trailer Left Side (If Equipped)
23	Lift Gate Module
24	Power Lumbar
25	Trailer Right Side (If Equipped)
26	Rear Accessory Power Outlet
27	Memory Mirror Module

Mini Fuses	Usage
28	Regulated Voltage Control Battery Sensor
29	Front Wiper
30	Rear Wiper
31	Air Conditioning Compressor
32	Rear Latch
33	Heated Mirrors
34	Horn
35	Right High-Beam Headlamp
36	Left High-Beam Headlamp
37	Ignition Even Coil
38	Ignition Odd Coil
39	Windshield Washer
40	Front Fog Lamps

Mini Fuses	Usage
41	Post Catalytic Converter Oxygen Sensor
42	Engine Control Module
43	Pre–Catalytic Converter Oxygen Sensor
44	Transmission Control Module
45	Mirror
46	Fuel System Control Module Ignition
47	Spare
48	Rear Drive Module
49	Lift Gate Module Logic
50	Instrument Panel Fuse Block Ignition
51	Heated Seat– Front

Information Provided by:
DEALER e-PROCESS

Mini Fuses	Usage
52	Fuel System Control Module
53	Engine Control Module
54	Rear Vision Camera
78	Passenger Power Lumber

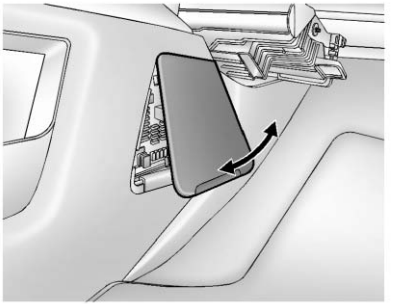
Midi Fuse	Usage
55	Electric Power Steering

Micro Relays	Usage
56	AIR Pump Solenoid
57	Brake Booster
58	Cooling Fan Low
59	Headlamp High Beam
60	Cooling Fan Control

Micro Relays	Usage
61	Wiper On/Off Control
62	Air Conditioning Compressor
63	Rear Defogger
64	Wiper Speed
65	Fog Lamp
66	Engine Control
67	Starter
68	Run/Crank

Mini Relays	Usage
69	Cooling Fan High
70	AIR Pump Motor

Instrument Panel Fuse Block

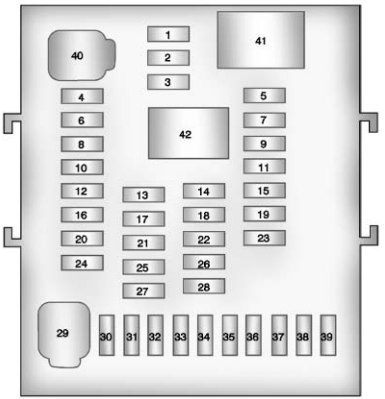


The instrument panel fuse block is located on the passenger side panel of the center console. To access the fuses, open the fuse panel door from the passenger side by pulling it out.

Information Provided by: DEALER E-PROCESS

To reinstall the door, insert the tabs on the top of the door into the console first, then push the door back into its original location.

The vehicle may not be equipped with all of the fuses, relays, and features shown.



Instrument Panel Fuse Block

Mini Fuses	Usage
1	Steering Wheel Dimming
2	Spare
3	Spare
4	Body Control Module 1
5	Infotainment
6	Body Control Module 7
7	Noise Control Module
8	Body Control Module 4
9	Radio
10	Spare
11	Ultrasonic Rear Parking Assist Module
12	Heater, Ventilation and Air Conditioning Battery

Information Provided by:
DEALER E-PROCESS

Mini Fuses	Usage
13	Auxiliary Power Front
14	Heater, Ventilation and Air Conditioning Ignition
15	Display
16	Body Control Module 5
17	Auxiliary Power Rear
18	Instrument Panel Cluster Ignition
19	Universal Garage Door Opener
20	Body Control Module 6
21	Spare
22	Sensing and Diagnostic Module Ignition
23	Front Camera

Mini Fuses	Usage
24	Spare
25	Transmission Gear Shift Position Indicator
26	Spare
27	Spare
28	Spare
30	Body Control Module 3
31	Amplifier
32	Discrete Logic Ignition Switch
33	Communications Integration Module
34	Body Control Module 2
35	Sensing and Diagnostic Module Battery
36	Data Link Connection

Mini Fuses	Usage
37	Instrument Panel Cluster Battery
38	Passenger Sensing System Module
39	Spare

J-Case Fuses	Usage
29	Front Blower Motor
40	Body Control Module 8

Relays	Usage
41	Logistic Relay (If Equipped)
42	Retained Accessory Power Relay

Information Solutions
DEALER E-PROCESS

Wheels and Tires

Tires

Every new GM vehicle has high-quality tires made by a leading tire manufacturer. See the warranty manual for information regarding the tire warranty and where to get service. For additional information refer to the tire manufacturer.

⚠ WARNING

- Poorly maintained and improperly used tires are dangerous.
- Overloading the tires can cause overheating as a result of too much flexing. There could be a blowout and a serious crash. See *Vehicle Load Limits on page 9-14*.

(Continued)

WARNING (CONTINUED)

- Underinflated tires pose the same danger as overloaded tires. The resulting crash could cause serious injury. Check all tires frequently to maintain the recommended pressure. Tire pressure should be checked when the tires are cold.
- Overinflated tires are more likely to be cut, punctured, or broken by a sudden impact — such as when hitting a pothole. Keep tires at the recommended pressure.
- Worn or old tires can cause a crash. If the tread is badly worn, replace them.
- Replace any tires that have been damaged by impacts with potholes, curbs, etc.

(Continued)

WARNING (CONTINUED)

- Improperly repaired tires can cause a crash. Only the dealer or an authorized tire service center should repair, replace, dismount, and mount the tires.
- Do not spin the tires in excess of 56 km/h (35 mph) on slippery surfaces such as snow, mud, ice, etc. Excessive spinning may cause the tires to explode.

All-Season Tires

This vehicle may come with all-season tires. These tires are designed to provide good overall performance on most road surfaces and weather conditions. Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. Original equipment all-season tires can be

Information Provided by: DEALER E-PROCESS

identified by the last two characters of this TPC code, which will be “MS.”

Consider installing winter tires on the vehicle if frequent driving on snow or ice-covered roads is expected. All-season tires provide adequate performance for most winter driving conditions, but they may not offer the same level of traction or performance as winter tires on snow or ice-covered roads. See *Winter Tires on page 10-39*.

Winter Tires

This vehicle was not, originally, equipped with winter tires. Winter tires are designed for increased traction on snow and ice-covered roads. Consider installing winter tires on the vehicle if frequent driving on snow or ice-covered roads is expected. See your dealer for details regarding winter tire availability and proper tire selection. Also, see *Buying New Tires on page 10-53*.

With winter tires, there may be decreased dry road traction, increased road noise, and shorter tread life. After changing to winter tires, be alert for changes in vehicle handling and braking.

If using winter tires:

- Use tires of the same brand and tread type on all four wheel positions.
- Use only radial ply tires of the same size, load range, and speed rating as the original equipment tires.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y, and ZR speed rated tires. If winter tires with a lower speed rating are chosen, never exceed the tire's maximum speed capability.

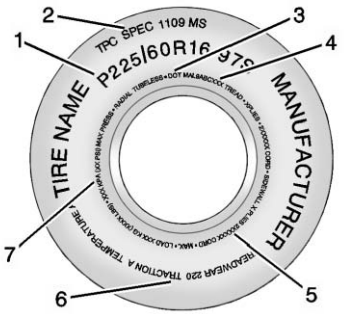
Summer Tires

This vehicle may come with high performance summer tires. These tires have a special tread and compound that are optimized for maximum dry and wet road performance. This special tread and compound will decrease performance in cold climates, and on ice and snow. We recommend installing winter tires on the vehicle if frequent driving in cold temperatures or on snow or ice covered roads is expected. See *Winter Tires on page 10-39*.

Tire Sidewall Labeling

Useful information about a tire is molded into its sidewall. The examples show a typical passenger vehicle tire and a compact spare tire sidewall.

Information Provided by: DEALER e-PROCESS



Passenger (P-Metric) Tire Example

(1) Tire Size: The tire size is a combination of letters and numbers used to define a particular tire's width, height, aspect ratio, construction type, and service description. See the "Tire Size" illustration later in this section.

(2) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

(3) DOT (Department of Transportation): The Department of Transportation (DOT) code indicates that the tire is in compliance with the U.S. Department of Transportation Motor Vehicle Safety Standards.

DOT Tire Date of Manufacture: The last four digits of the TIN indicate the tire manufactured date. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

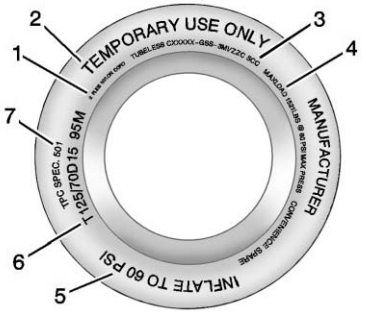
(4) Tire Identification Number (TIN): The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(5) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(6) Uniform Tire Quality Grading (UTQG): Tire manufacturers are required to grade tires based on three performance factors: treadwear, traction, and temperature resistance. For more information see *Uniform Tire Quality Grading on page 10-55*.

Information Provided by: DEALER E-PROCESS

(7) Maximum Cold Inflation Load Limit: Maximum load that can be carried and the maximum pressure needed to support that load.



Compact Spare Tire Example

(1) Tire Ply Material: The type of cord and number of plies in the sidewall and under the tread.

(2) Temporary Use Only: The compact spare tire or temporary use tire should not be driven at speeds over 80 km/h (50 mph).

The compact spare tire is for emergency use when a regular road tire has lost air and gone flat. If the vehicle has a compact spare tire, see *Compact Spare Tire on page 10-66* and *If a Tire Goes Flat on page 10-58*.

(3) Tire Identification Number (TIN): The letters and numbers following the DOT (Department of Transportation) code are the Tire Identification Number (TIN). The TIN shows the manufacturer and plant code, tire size, and date the tire was manufactured. The TIN is molded onto both sides of the tire, although only one side may have the date of manufacture.

(4) Maximum Cold Inflation Load Limit: Maximum load that can be carried and the maximum pressure needed to support that load.

(5) Tire Inflation: The temporary use tire or compact spare tire should be inflated to 420 kPa (60 psi). For more information on tire pressure and inflation see *Tire Pressure on page 10-45*.

(6) Tire Size: A combination of letters and numbers define a tire's width, height, aspect ratio, construction type, and service description. The letter T as the first character in the tire size means the tire is for temporary use only.

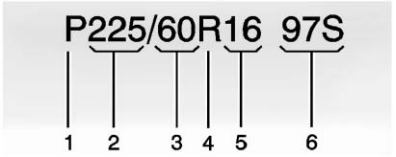
(7) TPC Spec (Tire Performance Criteria Specification): Original equipment tires designed to GM's specific tire performance criteria have a TPC specification code molded onto the sidewall. GM's TPC specifications meet or exceed all federal safety guidelines.

Information Provided by:
DEALER E-PROCESS

Tire Designations

Tire Size

The following is an example of a typical passenger vehicle tire size.



(1) Passenger (P-Metric) Tire: The United States version of a metric tire sizing system. The letter P as the first character in the tire size means a passenger vehicle tire engineered to standards set by the U.S. Tire and Rim Association.

(2) Tire Width: The three-digit number indicates the tire section width in millimeters from sidewall to sidewall.

(3) Aspect Ratio: A two-digit number that indicates the tire height-to-width measurements. For example, if the tire size aspect ratio is 60, as shown in item 3 of the illustration, it would mean that the tire's sidewall is 60 percent as high as it is wide.

(4) Construction Code: A letter code is used to indicate the type of ply construction in the tire. The letter R means radial ply construction; the letter D means diagonal or bias ply construction; and the letter B means belted-bias ply construction.

(5) Rim Diameter: Diameter of the wheel in inches.

(6) Service Description: These characters represent the load index and speed rating of the tire. The load index represents the load carrying capacity a tire is certified to carry. The speed rating is the maximum speed a tire is certified to carry a load.

Tire Terminology and Definitions

Air Pressure: The amount of air inside the tire pressing outward on each square inch of the tire. Air pressure is expressed in kPa (kilopascal) or psi (pounds per square inch).

Accessory Weight: The combined weight of optional accessories. Some examples of optional accessories are automatic transmission, power steering, power brakes, power windows, power seats, and air conditioning.

Aspect Ratio: The relationship of a tire's height to its width.

Information Provided by: DEALER e-PROCESS

Belt: A rubber coated layer of cords between the plies and the tread. Cords may be made from steel or other reinforcing materials.

Bead: The tire bead contains steel wires wrapped by steel cords that hold the tire onto the rim.

Bias Ply Tire: A pneumatic tire in which the plies are laid at alternate angles less than 90 degrees to the centerline of the tread.

Cold Tire Pressure: The amount of air pressure in a tire, measured in kPa (kilopascal) or psi (pounds per square inch) before a tire has built up heat from driving. See *Tire Pressure on page 10-45*.

Curb Weight: The weight of a motor vehicle with standard and optional equipment including the maximum capacity of fuel, oil, and coolant, but without passengers and cargo.

DOT Markings: A code molded into the sidewall of a tire signifying that the tire is in compliance with the U.S. Department of Transportation (DOT) Motor Vehicle Safety Standards. The DOT code includes the Tire Identification Number (TIN), an alphanumeric designator which can also identify the tire manufacturer, production plant, brand, and date of production.

GVWR: Gross Vehicle Weight Rating. See *Vehicle Load Limits on page 9-14*.

GAWR FRT: Gross Axle Weight Rating for the front axle. See *Vehicle Load Limits on page 9-14*.

Information Provided by: DEALER E-PROCESS

GAWR RR: Gross Axle Weight Rating for the rear axle. See *Vehicle Load Limits on page 9-14*.

Intended Outboard Sidewall: The side of an asymmetrical tire, that must always face outward when mounted on a vehicle.

Kilopascal (kPa): The metric unit for air pressure.

Light Truck (LT-Metric) Tire: A tire used on light duty trucks and some multipurpose passenger vehicles.

Load Index: An assigned number ranging from 1 to 279 that corresponds to the load carrying capacity of a tire.

Maximum Inflation Pressure: The maximum air pressure to which a cold tire can be inflated. The maximum air pressure is molded onto the sidewall.

Maximum Load Rating: The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum Loaded Vehicle Weight: The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

Normal Occupant Weight: The number of occupants a vehicle is designed to seat multiplied by 68 kg (150 lbs). See *Vehicle Load Limits on page 9-14*.

Occupant Distribution: Designated seating positions.

Outward Facing Sidewall: The side of an asymmetrical tire that has a particular side that faces outward when mounted on a vehicle. The side of the tire that contains a whitewall, bears white lettering, or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same moldings on the other sidewall of the tire.

Passenger (P-Metric) Tire: A tire used on passenger cars and some light duty trucks and multipurpose vehicles.

Recommended Inflation Pressure: Vehicle manufacturer's recommended tire inflation pressure as shown on the tire placard. See *Tire Pressure on page 10-45* and *Vehicle Load Limits on page 9-14*.

Radial Ply Tire: A pneumatic tire in which the ply cords that extend to the beads are laid at 90 degrees to the centerline of the tread.

Rim: A metal support for a tire and upon which the tire beads are seated.

Information Provided by: DEALER E-PROCESS

Sidewall: The portion of a tire between the tread and the bead.

Speed Rating: An alphanumeric code assigned to a tire indicating the maximum speed at which a tire can operate.

Traction: The friction between the tire and the road surface. The amount of grip provided.

Tread: The portion of a tire that comes into contact with the road.

Treadwear Indicators: Narrow bands, sometimes called wear bars, that show across the tread of a tire when only 1.6 mm (1/16 in) of tread remains. See *When It Is Time for New Tires on page 10-52*.

UTQGS (Uniform Tire Quality Grading Standards): A tire information system that provides consumers with ratings for a

tire's traction, temperature, and treadwear. Ratings are determined by tire manufacturers using government testing procedures. The ratings are molded into the sidewall of the tire. See *Uniform Tire Quality Grading on page 10-55*.

Vehicle Capacity Weight: The number of designated seating positions multiplied by 68 kg (150 lbs) plus the rated cargo load. See *Vehicle Load Limits on page 9-14*.

Vehicle Maximum Load on the Tire: Load on an individual tire due to curb weight, accessory weight, occupant weight, and cargo weight.

Vehicle Placard: A label permanently attached to a vehicle showing the vehicle capacity weight and the original equipment tire size and recommended inflation pressure. See "Tire and Loading Information Label" under *Vehicle Load Limits on page 9-14*.

Tire Pressure

Tires need the correct amount of air pressure to operate effectively.

Notice: **Neither tire underinflation nor overinflation is good. Underinflated tires, or tires that do not have enough air, can result in:**

- **Tire overloading and overheating which could lead to a blowout.**
- **Premature or irregular wear.**
- **Poor handling.**
- **Reduced fuel economy.**

Information Provided by: DEALER e-PROCESS

Overinflated tires, or tires that have too much air, can result in:

- **Unusual wear.**
- **Poor handling.**
- **Rough ride.**
- **Needless damage from road hazards.**

The Tire and Loading Information label on the vehicle indicates the original equipment tires and the correct cold tire inflation pressures. The recommended pressure is the minimum air pressure needed to support the vehicle's maximum load carrying capacity. See *Vehicle Load Limits on page 9-14*.

How the vehicle is loaded affects vehicle handling and ride comfort. Never load the vehicle with more weight than it was designed to carry.

When to Check

Check the tires once a month or more. Do not forget the compact spare, if the vehicle has one. The cold compact spare tire pressure should be at 420 kPa (60 psi). See *Compact Spare Tire on page 10-66*.

How to Check

Use a good quality pocket-type gauge to check tire pressure. Proper tire inflation cannot be determined by looking at the tire. Check the tire inflation pressure when the tires are cold, meaning the vehicle has not been driven for at least three hours or no more than 1.6 km (1 mi).

Remove the valve cap from the tire valve stem. Press the tire gauge firmly onto the valve to get a pressure measurement. If the cold tire inflation pressure matches the recommended pressure on the Tire and Loading Information label, no further adjustment is necessary. If the inflation pressure is low, add air until the recommended pressure is reached. If the inflation pressure is high, press on the metal stem in the center of the tire valve to release air.

Recheck the tire pressure with the tire gauge.

Return the valve caps on the valve stems to prevent leaks and keep out dirt and moisture.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.

Information Provided by: DEALER E-PROCESS

Each tire, including the spare (if provided), should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale when one or more of your tires is significantly under-inflated.

Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire

tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale.

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale. When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

See *Tire Pressure Monitor Operation on page 10-47*.

Federal Communications Commission (FCC) Rules and with Industry Canada Standards

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) Rules and with Industry Canada Standards RSS-GEN/210/220/310.

Information Provided by: DEALER e-PROCESS

Tire Pressure Monitor Operation

This vehicle may have a Tire Pressure Monitor System (TPMS). The TPMS is designed to warn the driver when a low tire pressure condition exists. TPMS sensors are mounted onto each tire and wheel assembly, excluding the spare tire and wheel assembly. The TPMS sensors monitor the air pressure in the tires and transmits the tire pressure readings to a receiver located in the vehicle.



When a low tire pressure condition is detected, the TPMS illuminates the low tire pressure warning light located on the instrument cluster. If the warning light comes on, stop as soon as possible and inflate the

tires to the recommended pressure shown on the tire loading information label. See *Vehicle Load Limits on page 9-14*.

A message to check the pressure in a specific tire displays in the Driver Information Center (DIC). The low tire pressure warning light and the DIC warning message come on at each ignition cycle until the tires are inflated to the correct inflation pressure. Using the DIC, tire pressure levels can be viewed. For additional information and details about the DIC operation and displays see *Driver Information Center (DIC) on page 5-21*.

The low tire pressure warning light may come on in cool weather when the vehicle is first started, and then turn off as the vehicle is driven. This could be an early indicator that the air pressure is getting low and needs to be inflated to the proper pressure.

A Tire and Loading Information label shows the size of the original equipment tires and the correct inflation pressure for the tires when they are cold. See *Vehicle Load Limits on page 9-14*, for an example of the Tire and Loading Information label and its location. Also see *Tire Pressure on page 10-45*.

The TPMS can warn about a low tire pressure condition but it does not replace normal tire maintenance. See *Tire Inspection on page 10-50*, *Tire Rotation on page 10-51* and *Tires on page 10-38*.

Notice: **Tire sealant materials are not all the same. A non-approved tire sealant could damage the TPMS sensors. TPMS sensor damage caused by using an incorrect tire sealant is not covered by the vehicle warranty. Always use only the GM-approved tire sealant available through your dealer or included in the vehicle.**

Information Provided by: DEALER e-PROCESS

TPMS Malfunction Light and Message

The TPMS will not function properly if one or more of the TPMS sensors are missing or inoperable. When the system detects a malfunction, the low tire pressure warning light flashes for about one minute and then stays on for the remainder of the ignition cycle. A DIC warning message also displays. The low tire pressure warning light and DIC warning message come on at each ignition cycle until the problem is corrected. Some of the conditions that can cause these to come on are:

- One of the road tires has been replaced with the spare tire. The spare tire does not have a TPMS sensor. The malfunction light and DIC message should go off after the road tire is replaced and the sensor matching process is performed successfully. See "TPMS Sensor Matching Process" later in this section.

- The TPMS sensor matching process was not done or not completed successfully after rotating the tires. The malfunction light and the DIC message should go off after successfully completing the sensor matching process. See "TPMS Sensor Matching Process" later in this section
- One or more TPMS sensors are missing or damaged. The DIC message and the TPMS malfunction light should go off when the TPMS sensors are installed and the sensor matching process is performed successfully. See your dealer for service.
- Replacement tires or wheels do not match the original equipment tires or wheels. Tires and wheels other than those recommended could prevent the TPMS from functioning properly. See *Buying New Tires on page 10-53*.
- Operating electronic devices or being near facilities using radio wave frequencies similar to the TPMS could cause the TPMS sensors to malfunction.

If the TPMS is not functioning properly, it cannot detect or signal a low tire condition. See your dealer for service if the TPMS malfunction light and DIC message comes on and stays on.

TPMS Sensor Matching Process

Each TPMS sensor has a unique identification code. The identification code needs to be matched to a new tire/wheel position after rotating the tires or replacing one or more of the TPMS sensors. The TPMS sensor matching process should also be performed after replacing a spare tire with a road tire containing the TPMS sensor. The malfunction light and the DIC message should go off at the next ignition cycle. The sensors are matched to the tire/wheel positions, using a TPMS relearn tool, in the following order: driver side front tire, passenger side front tire, passenger side rear tire, and driver side rear. See your dealer for service or to purchase a relearn tool.

There are two minutes to match the first tire/wheel position, and five minutes overall to match all four tire/wheel positions. If it takes longer, the matching process stops and must be restarted.

The TPMS sensor matching process is:

1. Set the parking brake.
2. Turn the ignition to ON/RUN with the engine off.
3. Use the MENU button to select the Vehicle Information Menu in the Driver Information Center (DIC). Use the arrow keys to scroll to the Tire Pressure screen.

DEALER E-PROCESS

4. Press the SET/CLR button to begin the sensor matching process.

 A message requesting acceptance of the process should display.

5. Press the SET/CLR button again to confirm the selection.

 The horn sounds twice to signal the receiver is in relearn mode and the TIRE LEARNING ACTIVE message displays on the DIC screen.

6. Start with the driver side front tire.

7. Place the relearn tool against the tire sidewall, near the valve stem. Then press the button to activate the TPMS sensor. A horn chirp confirms that the sensor identification code has been matched to this tire and wheel position.

8. Proceed to the passenger side front tire, and repeat the procedure in Step 7.

9. Proceed to the passenger side rear tire, and repeat the procedure in Step 7.

10. Proceed to the driver side rear tire, and repeat the procedure in Step 7. The horn sounds two times to indicate the sensor identification code has been matched to the driver side rear tire, and the TPMS sensor matching process is no longer active. The TIRE LEARNING ACTIVE message on the DIC display screen goes off.

11. Turn the ignition to LOCK/OFF.

12. Set all four tires to the recommended air pressure level as indicated on the Tire and Loading Information label.

Tire Inspection

We recommend that the tires, including the spare tire, if the vehicle has one, be inspected for signs of wear or damage at least once a month.

Provided by: DEALER E-PROCESS

Replace the tire if:

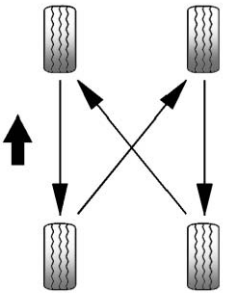
- The indicators at three or more places around the tire can be seen.
- There is cord or fabric showing through the tire's rubber.
- The tread or sidewall is cracked, cut, or snagged deep enough to show cord or fabric.
- The tire has a bump, bulge, or split.
- The tire has a puncture, cut, or other damage that cannot be repaired well because of the size or location of the damage.

Tire Rotation

Tires should be rotated every 12 000 km (7,500 mi). See *Maintenance Schedule on page 11-3*.

Tires are rotated to achieve a uniform wear for all tires. The first rotation is the most important.

Anytime unusual wear is noticed, rotate the tires as soon as possible, check for proper tire inflation pressure, and check for damaged tires or wheels. If the unusual wear continues after the rotation, check the wheel alignment. See *When It Is Time for New Tires on page 10-52* and *Wheel Replacement on page 10-56*.



Use this rotation pattern when rotating the tires.

Do not include the compact spare tire in the tire rotation.

Adjust the front and rear tires to the recommended inflation pressure on the Tire and Loading Information label after the tires have been rotated. See *Tire Pressure on page 10-45* and *Vehicle Load Limits on page 9-14*.

Information Provided by:
DEALER E-PROCESS

Reset the Tire Pressure Monitor System. See *Tire Pressure Monitor Operation on page 10-47*.

Check that all wheel nuts are properly tightened. See “Wheel Nut Torque” under *Capacities and Specifications on page 12-2*.

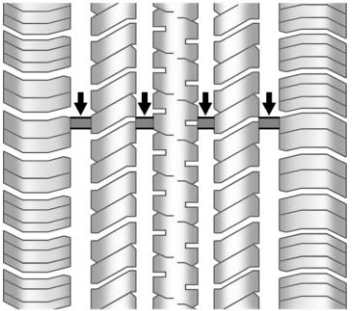
⚠ WARNING

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.

Lightly coat the center of the wheel hub with wheel bearing grease after a wheel change or tire rotation to prevent corrosion or rust build-up. Do not get grease on the flat wheel mounting surface or on the wheel nuts or bolts.

When It Is Time for New Tires

Factors such as maintenance, temperatures, driving speeds, vehicle loading, and road conditions affect the wear rate of the tires.



Treadwear indicators are one way to tell when it is time for new tires. Treadwear indicators appear when the tires have only 1.6 mm (1/16 in) or less of tread remaining. See *Tire Inspection on page 10-50* and *Tire Rotation on page 10-51*.

The rubber in tires ages over time. This also applies to the spare tire, if the vehicle has one, even if it is never used. Multiple factors including temperatures, loading conditions, and inflation pressure maintenance affect how fast aging takes place. GM recommends that tires, including the spare if equipped, be replaced after six years, regardless of tread wear. The tire manufacturer date is the last four digits of the DOT Tire Identification Number (TIN) which is molded into one side of the tire sidewall. The first two digits represent the week (01–52) and the last two digits, the year. For example, the third week of the year 2010 would have a four-digit DOT date of 0310.

Vehicle Storage

Tires age when stored normally mounted on a parked vehicle. Park a vehicle that will be stored for at least a month in a cool, dry, clean area away from direct sunlight to slow aging. This area should be free of grease, gasoline, or other substances that can deteriorate rubber.

Information Provided by: DEALER E-PROCESS

Parking for an extended period can cause flat spots on the tires that may result in vibrations while driving. When storing a vehicle for at least a month, remove the tires or raise the vehicle to reduce the weight from the tires.

Buying New Tires

GM has developed and matched specific tires for the vehicle. The original equipment tires installed were designed to meet General Motors Tire Performance Criteria Specification (TPC Spec) system rating. When replacement tires are needed, GM strongly recommends buying tires with the same TPC Spec rating.

GM's exclusive TPC Spec system considers over a dozen critical specifications that impact the overall performance of the vehicle, including brake system performance, ride and handling, traction control, and tire pressure monitoring performance. GM's TPC Spec number is molded onto the tire's sidewall near the tire size. If the tires have an all-season tread design, the TPC Spec number will be followed by MS for mud and snow. See *Tire Sidewall Labeling on page 10-39*.

GM recommends replacing worn tires in complete sets of four. Uniform tread depth on all tires will help to maintain the performance of the vehicle. Braking and handling performance may be adversely affected if all the tires are not replaced at the same time. If proper rotation and maintenance have been done, all four tires should wear out at about the same time. See *Tire Rotation on page 10-51* for information on proper tire rotation. However, if it is necessary to replace only one axle set of worn tires, place the new tires on the rear axle.

Winter tires with the same speed rating as the original equipment tires may not be available for H, V, W, Y and ZR speed rated tires. Never exceed the winter tire's maximum speed capability when using winter tires with a lower speed rating.

⚠ WARNING

Tires could explode during improper service. Attempting to mount or dismount a tire could cause injury or death. Only your dealer or authorized tire service center should mount or dismount the tires.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Mixing tires of different sizes, brands, or types may cause loss of control of the vehicle, resulting in a crash or other vehicle damage. Use the correct size, brand, and type of tires on all wheels.

⚠ WARNING

Using bias-ply tires on the vehicle may cause the wheel rim flanges to develop cracks after many miles of driving. A tire and/or wheel could fail suddenly and cause a crash. Use only radial-ply tires with the wheels on the vehicle.

If the vehicle tires must be replaced with a tire that does not have a TPC Spec number, make sure they are the same size, load range, speed rating, and construction (radial) as the original tires.

Vehicles that have a tire pressure monitoring system could give an inaccurate low-pressure warning if non-TPC Spec rated tires are installed. See *Tire Pressure Monitor System on page 10-46*.

The Tire and Loading Information label indicates the original equipment tires on the vehicle. See *Vehicle Load Limits on page 9-14*.

Different Size Tires and Wheels

If wheels or tires are installed that are a different size than the original equipment wheels and tires, vehicle performance, including its braking, ride and handling characteristics, stability, and resistance to rollover may be affected. If the vehicle has electronic systems such as antilock brakes, rollover airbags, traction control, and electronic stability control, the performance of these systems can also be affected.

⚠ WARNING

If different sized wheels are used, there may not be an acceptable level of performance and safety if tires not recommended for those wheels are selected. This increases the chance of a crash and serious injury. Only use GM specific wheel and tire systems developed for the vehicle, and have them properly installed by a GM certified technician.

See *Buying New Tires on page 10-53* and *Accessories and Modifications on page 10-2*.

DEALER E-PROCESS

Uniform Tire Quality Grading

Quality grades can be found where applicable on the tire sidewall between tread shoulder and maximum section width. For example:

Treadwear 200 Traction AA Temperature A

The following information relates to the system developed by the United States National Highway Traffic Safety Administration (NHTSA), which grades tires by treadwear, traction, and temperature performance. This applies only to vehicles sold in the United States. The grades are molded on the sidewalls of most passenger car tires. The Uniform Tire Quality Grading (UTQG) system does not apply to deep tread, winter tires, compact spare tires, tires with nominal rim diameters of 10 to 12 inches (25 to 30 cm), or to some limited-production tires.

While the tires available on General Motors passenger cars and light trucks may vary with respect to these grades, they must also conform to federal safety requirements and additional General Motors Tire Performance Criteria (TPC) standards.

All Passenger Car Tires Must Conform to Federal Safety Requirements In Addition To These Grades.

Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course. For example, a tire graded 150 would wear one and one-half (1½) times as well on the government course as a tire graded 100. The relative performance of tires depends upon the actual conditions of their use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

Traction – AA, A, B, C

The traction grades, from highest to lowest, are AA, A, B, and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance. Warning: The traction grade assigned to this tire is based on

DEALER E-PROCESS

straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning, or peak traction characteristics.

Temperature – A, B, C

The temperature grades are A (the highest), B, and C, representing the tire's resistance to the generation of heat and its ability to dissipate heat when tested under controlled conditions on a specified indoor laboratory test wheel. Sustained high temperature can cause the material of the tire to degenerate and reduce tire life, and excessive temperature can lead to sudden tire failure. The grade C corresponds to a level of performance which all passenger car tires must meet under the Federal Motor Safety Standard No. 109. Grades B and A represent higher levels of performance on the laboratory test wheel than the minimum required by law. Warning: The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Wheel Alignment and Tire Balance

The tires and wheels were aligned and balanced at the factory to provide the longest tire life and best overall performance. Adjustments to wheel alignment and tire balancing will not be necessary on a regular basis. However, check the alignment if there is unusual tire wear or if the vehicle is pulling to one side or the other. If the vehicle vibrates when driving on a smooth road, the tires and wheels might need to be rebalanced. See your dealer for proper diagnosis.

Wheel Replacement

Replace any wheel that is bent, cracked, or badly rusted or corroded. If wheel nuts keep coming loose, the wheel, wheel bolts, and wheel nuts should be replaced. If the wheel leaks air, replace it. Some aluminum wheels can be repaired. See your dealer if any of these conditions exist.

Your dealer will know the kind of wheel that is needed.

Each new wheel should have the same load-carrying capacity, diameter, width, offset, and be mounted the same way as the one it replaces.

Replace wheels, wheel bolts, wheel nuts, or Tire Pressure Monitor System (TPMS) sensors with new GM original equipment parts.

Information Provided by: DEALER E-PROCESS

⚠ WARNING

Using the wrong replacement wheels, wheel bolts, or wheel nuts can be dangerous. It could affect the braking and handling of the vehicle. Tires can lose air, and cause loss of control, causing a crash. Always use the correct wheel, wheel bolts, and wheel nuts for replacement.

Notice: **The wrong wheel can also cause problems with bearing life, brake cooling, speedometer or odometer calibration, headlamp aim, bumper height, vehicle ground clearance, and tire or tire chain clearance to the body and chassis.**

Used Replacement Wheels

⚠ WARNING

Replacing a wheel with a used one is dangerous. How it has been used or how far it has been driven may be unknown. It could fail suddenly and cause a crash. When replacing wheels, use a new GM original equipment wheel.

Tire Chains

⚠ WARNING

Do not use tire chains. There is not enough clearance. Tire chains used on a vehicle without the proper amount of clearance can cause damage to the brakes, suspension or other vehicle parts. The area damaged by the tire

(Continued)

WARNING (CONTINUED)

chains could cause you to lose control of the vehicle and you or others may be injured in a crash.

A Type S low-profile cable can be used only if the cable manufacturer recommends it for use on the vehicle, the tire size combination, and road conditions. Follow the manufacturer's instructions. To help avoid damage to the vehicle, drive slowly, readjust or remove the cable if it is contacting the vehicle and do not spin the vehicle's tires. Install the cables on the front tires only. Cables should not be installed on the spare tire or on the optional 19-inch tire.

Information Provided by: DEALER E-PROCESS

If a Tire Goes Flat

It is unusual for a tire to blow out while driving, especially if the tires are maintained properly. See *Tires on page 10-38*. If air goes out of a tire, it is much more likely to leak out slowly. But if there ever is a blowout, here are a few tips about what to expect and what to do:

If a front tire fails, the flat tire creates a drag that pulls the vehicle toward that side. Take your foot off the accelerator pedal and grip the steering wheel firmly. Steer to maintain lane position, and then gently brake to a stop, well off the road, if possible.

A rear blowout, particularly on a curve, acts much like a skid and may require the same correction as used in a skid. Stop pressing the accelerator pedal and steer to straighten the vehicle. It may be very bumpy and noisy. Gently brake to a stop, well off the road, if possible.

⚠ WARNING

Driving on a flat tire will cause permanent damage to the tire. Re-inflating a tire after it has been driven on while severely underinflated or flat may cause a blowout and a serious crash. Never attempt to re-inflate a tire that has been driven on while severely underinflated or flat. Have your dealer or an authorized tire service center repair or replace the flat tire as soon as possible.

⚠ WARNING

Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

If a tire goes flat, avoid further tire and wheel damage by driving slowly to a level place, well off the road, if possible. Turn on the hazard warning flashers. See *Hazard Warning Flashers on page 6-3*.

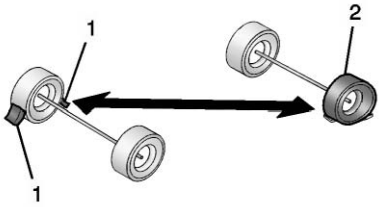
Information Provided by: DEALER E-PROCESS

⚠ WARNING

Changing a tire can be dangerous. The vehicle can slip off the jack and roll over or fall causing injury or death. Find a level place to change the tire. To help prevent the vehicle from moving:

1. Set the parking brake firmly.
2. Put an automatic transmission in P (Park) or a manual transmission in 1 (First) or R (Reverse).
3. Turn off the engine and do not restart while the vehicle is raised.
4. Do not allow passengers to remain in the vehicle.
5. Place wheel blocks on both sides of the tire at the opposite corner of the tire being changed.

When the vehicle has a flat tire (2), use the following example as a guide to assist in the placement of the wheel blocks (1).

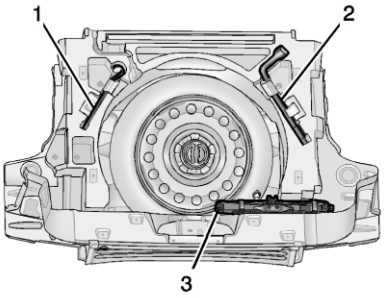


1. Wheel Block
2. Flat Tire

The following information explains how to repair or change a tire.

Tire Changing

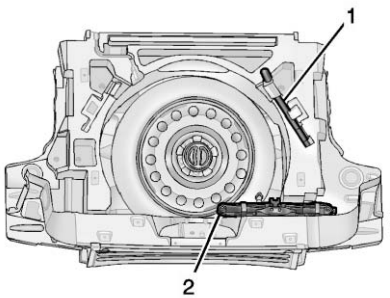
Removing the Spare Tire and Tools



Coin/Pierce Jack with One-Piece Wrench

1. Extension
2. Wheel Wrench
3. Jack

Information Provided by: DEALER E-PROCESS



Hex-Head Jack with Three-Piece Wrench

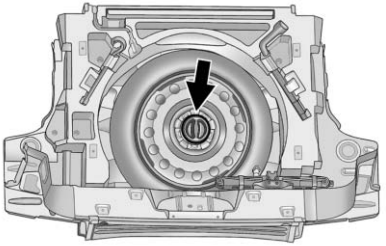
1. Wheel Wrench
2. Jack

To access the spare tire and tools:

1. Open the liftgate. See *Liftgate on page 2-8*.
2. Lift the load floor up.
3. If you have a coin/pierce jack and one-piece wrench, remove the extension (1), wheel wrench (2) and jack (3).

 If you have a hex-head jack and three-piece wrench, remove the wheel wrench (1) and jack (2).

 Place the tools next to the tire being changed.



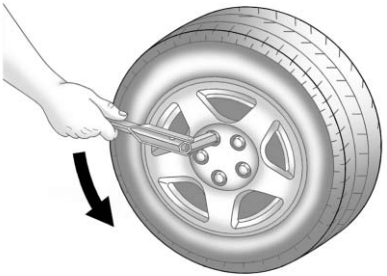
4. Turn the retainer nut counterclockwise and remove the spare tire.

 Place either end of the extension into a retainer hole to loosen the retainer nut if unable to by hand.
5. Place the spare tire next to the tire being changed.

Removing the Flat Tire and Installing the Spare Tire

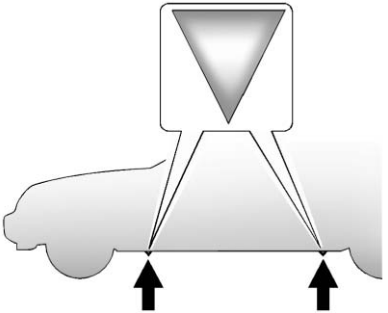
1. Do a safety check before proceeding. See *If a Tire Goes Flat on page 10-58* for more information.
2. For vehicles with a wheel cover or center cap, pull the cover or center cap away from the wheel to remove it. Store the wheel cover in the cargo area until you have the flat tire repaired or replaced.

Information Provided by:
DEALER E-PROCESS



3. Turn the wheel wrench counterclockwise to loosen all the wheel nuts, but do not remove them yet.

Notice: **Make sure that the jack lift head is in the correct position or you may damage your vehicle. The repairs would not be covered by your warranty.**



4. Position the jack lift head at the jack location nearest the flat tire. The location is indicated by a mark on the bottom edge of the front and rear door plastic molding. The jack must not be used in any other position.
5. Place the jack notch under the frame rail seam.

⚠ WARNING

Getting under a vehicle when it is lifted on a jack is dangerous. If the vehicle slips off the jack, you could be badly injured or killed. Never get under a vehicle when it is supported only by a jack.

⚠ WARNING

Raising the vehicle with the jack improperly positioned can damage the vehicle and even make the vehicle fall. To help avoid personal injury and vehicle damage, be sure to fit the jack lift head into the proper location before raising the vehicle.

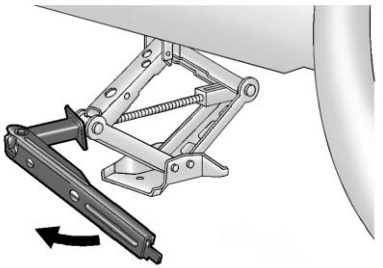
Information Provided by: DEALER E-PROCESS

⚠ WARNING

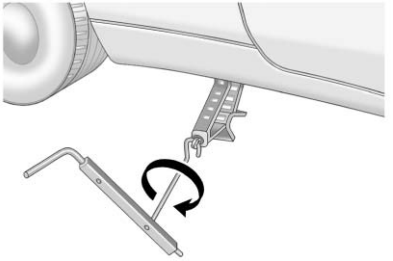
Lifting a vehicle and getting under it to do maintenance or repairs is dangerous without the appropriate safety equipment and training. If a jack is provided with the vehicle, it is designed only for changing a flat tire. If it is used for anything else, you or others could be badly injured or killed if the vehicle slips off the jack. If a jack is provided with the vehicle, only use it for changing a flat tire.

6. Place the jack under the vehicle.
7. If you have a coin/pierce jack, attach the jack handle extension to the jack by sliding the hook through the end of the jack and insert the other end of the jack handle into the wrench.

 If you have a hex-head jack, attach the jack lift-assist tool by placing the hex of the jack lift-assist tool over the hex head of the jack.



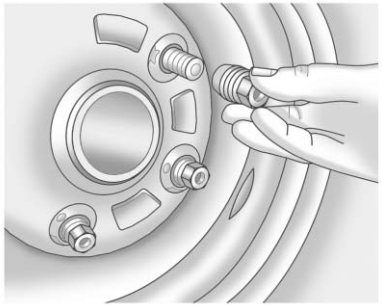
Hex Head Jack and Wrench



Coin/Pierce Jack and Wrench

8. Raise the vehicle by turning the jack handle clockwise. Raise the vehicle far enough off the ground so there is enough room for the road tire to clear the ground.

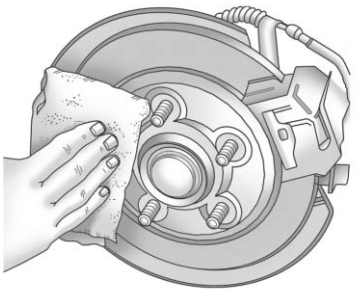
Information Provided by: DEALER E-PROCESS



9. Remove all of the wheel nuts.
10. Remove the flat tire.

⚠ WARNING

Rust or dirt on a wheel, or on the parts to which it is fastened, can make wheel nuts become loose after time. The wheel could come off and cause an accident. When changing a wheel, remove any rust or dirt from places where the wheel attaches to the vehicle. In an emergency, a cloth or a paper towel can be used; however, use a scraper or wire brush later to remove all rust or dirt.



11. Remove any rust or dirt from the wheel bolts, mounting surfaces, and spare wheel.
12. Place the compact spare tire on the wheel-mounting surface.

⚠ WARNING

Never use oil or grease on bolts or nuts because the nuts might come loose. The vehicle's wheel could fall off, causing a crash.

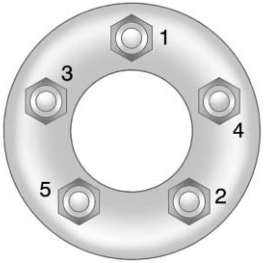
Information Provided by: DEALER E-PROCESS

13. Reinstall the wheel nuts. Tighten each nut by hand until the wheel is held against the hub.
14. Lower the vehicle by turning the jack handle counterclockwise.

⚠ WARNING

Wheel nuts that are improperly or incorrectly tightened can cause the wheels to become loose or come off. The wheel nuts should be tightened with a torque wrench to the proper torque specification after replacing. Follow the torque specification supplied by the aftermarket manufacturer when using accessory locking wheel nuts. See *Capacities and Specifications on page 12-2* for original equipment wheel nut torque specifications.

Notice: **Improperly tightened wheel nuts can lead to brake pulsation and rotor damage. To avoid expensive brake repairs, evenly tighten the wheel nuts in the proper sequence and to the proper torque specification. See *Capacities and Specifications on page 12-2* for the wheel nut torque specification.**



15. Tighten the wheel nuts firmly in a crisscross sequence, as shown.

Information Provided by:
DEALER e-PROCESS

16. Lower the jack all the way and remove the jack from under the vehicle.
17. Tighten the wheel nuts firmly with the wheel wrench.

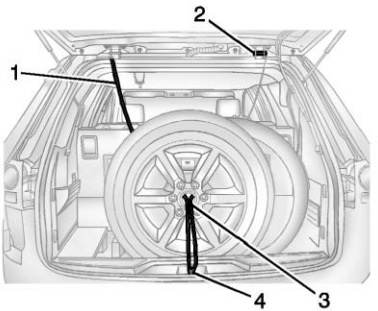
When reinstalling the wheel cover or center cap on the full-size tire, tighten all five plastic caps hand snug with the aid of the wheel wrench and tighten them with the wheel wrench an additional one-quarter of a turn.

Notice: **Wheel covers will not fit on the vehicle's compact spare. If you try to put a wheel cover on the compact spare, the cover or the spare could be damaged.**

Storing a Flat or Spare Tire and Tools

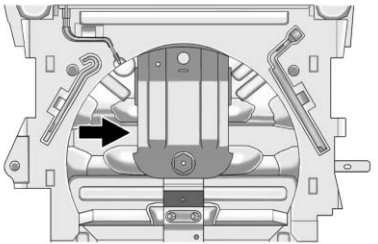
⚠ WARNING

Storing a jack, a tire, or other equipment in the passenger compartment of the vehicle could cause injury. In a sudden stop or collision, loose equipment could strike someone. Store all these in the proper place.

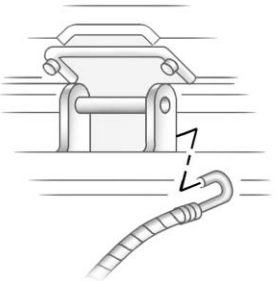


1. Cable
2. Liftgate Hinges
3. Center of the Wheel
4. Door Striker

To store the flat tire:



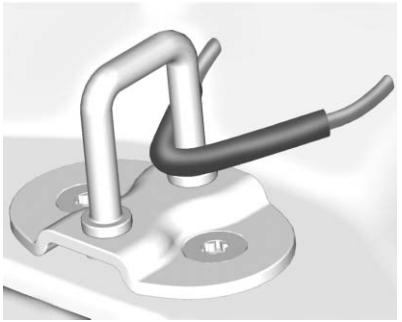
1. Remove the cable package. The cable is stored in a plastic bag under the compact spare tire.
2. Remove the small center cap by tapping the back of the cap with the extension of the shaft, if the vehicle has aluminum wheels.
3. Put the flat tire in the rear storage area with the valve stem pointing toward the rear of the vehicle.
4. Pull the cable (1) through the door striker (4) then the center of the wheel (3).



5. Hook the cable onto the outside portion of the liftgate hinges (2).
6. Hook the other end of the cable onto the outside portion of the liftgate hinge on the other side of the vehicle.

Information Provided by: DEALER E-PROCESS

7. Pull on the cable to make sure it is secure.



8. Make sure the metal tube is centered at the striker. Push the tube toward the front of the vehicle.
9. Close the liftgate and make sure it is latched properly.

The compact spare is for temporary use only. Replace the compact spare tire with a full-size tire as soon as you can.

Compact Spare Tire

⚠ WARNING

Driving with more than one compact spare tire at a time could result in loss of braking and handling. This could lead to a crash and you or others could be injured. Use only one compact spare tire at a time.

If this vehicle has a compact spare tire, it was fully inflated when new; however, it can lose air over time. Check the inflation pressure regularly. It should be 420 kPa (60 psi).

Stop as soon as possible and check that the spare tire is correctly inflated after being installed on the vehicle. The compact spare tire is designed for temporary use only. The vehicle will perform differently with the spare tire installed and it is recommended that the vehicle speed be limited to 80 km/h (50 mph). To conserve the tread of the spare tire, have the standard tire repaired or replaced as soon as convenient and return the spare tire to the storage area.

Notice: **When the compact spare is installed, do not take the vehicle through an automatic car wash with guide rails. The compact spare can get caught on the rails which can damage the tire, wheel, and other parts of the vehicle.**

Do not use the compact spare on other vehicles.

Do not mix the compact spare tire or wheel with other wheels or tires. They will not fit. Keep the spare tire and its wheel together.

Notice: **Tire chains will not fit the compact spare. Using them can damage the vehicle and the chains. Do not use tire chains on the compact spare.**

DEALER E-PROCESS

Jump Starting

For more information about the vehicle battery, see *Battery on page 10-23*.

Jump starting can be used on vehicles with run-down batteries by using jumper cables and another vehicle.

⚠ WARNING

Batteries can hurt you. They can be dangerous because:

- They contain acid that can burn you.
- They contain gas that can explode or ignite.
- They contain enough electricity to burn you.

If you do not follow these steps exactly, some or all of these things can hurt you.

⚠ WARNING

Using an open flame near a battery can cause battery gas to explode. People have been hurt doing this, and some have been blinded. Use a flashlight if you need more light.

Be sure the battery has enough water. You do not need to add water to the battery installed in your new vehicle. But if a battery has filler caps, be sure the right amount of fluid is there. If it is low, add water to take care of that first. If you do not, explosive gas could be present.

Battery fluid contains acid that can burn you. Do not get it on you. If you accidentally get it in your eyes or on your skin, flush the place with water and get medical help immediately.

Be sure to use the following steps to do it safely. Ignoring these steps could result in costly damage to the vehicle that would not be covered by the warranty.

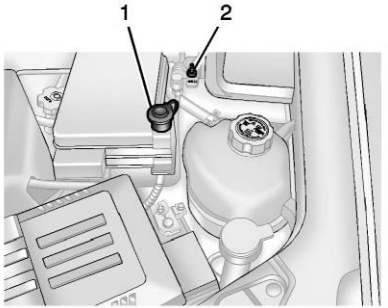
Trying to start the vehicle by pushing or pulling it will not work, and it could damage the vehicle.

Notice: **If any accessories are left on or plugged in during the jump starting procedure, they could be damaged. The repairs would not be covered by the vehicle warranty. Whenever possible, turn off or unplug all accessories on either vehicle when jump starting the vehicle.**

Notice: **If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty.**

Information Provided by: DEALER E-PROCESS

Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.



1. Remote Positive (+) Terminal
2. Remote Negative (−) Terminal

1. The vehicle used to jump start must have 12-volt battery with a negative ground.

Notice: **Only use a vehicle that has a 12-volt system with a negative ground for jump starting. If the other vehicle does not have a 12-volt system with a negative ground, both vehicles can be damaged.**

2. The vehicles should be close enough for the jumper cables to reach, but the vehicles should not be touching. Touching could cause grounding and possible electrical system damage.

 Put both vehicles in P (Park) and set the parking brake firmly.

3. Unplug accessories plugged into the cigarette lighter or the accessory power outlet. Turn off the radio and all lamps that are not needed. Turn off the ignition on both vehicles.

4. Locate the positive (+) and negative (−) terminals on both vehicles. Some vehicles have remote jump starting terminals.

Information Provided by:
DEALER E-PROCESS

⚠ WARNING

An electric fan can start up even when the engine is not running and can injure you. Keep hands, clothing and tools away from any underhood electric fan.

5. The remote positive (+) terminal (1) is located on the underhood fuse block, on the driver side. Lift the red cap to uncover the terminal.

 The remote negative (−) terminal (2) is a stud behind the metal tab stamped with GND (−) near the driver side strut tower.

6. The jumper cables should be in good working condition with no loose or missing insulation. The vehicles could be damaged if they are not.

7. Connect the red positive (+) cable to the positive (+) terminal on the vehicle with the dead

battery. Use a remote positive (+) terminal if the vehicle has one.

8. Do not let the other end touch metal. Connect it to the positive (+) terminal of the good battery. Use a remote positive (+) terminal if the vehicle has one.
9. Connect the black negative (−) cable to the negative (−) terminal of the good battery. Use a remote negative (−) terminal if the vehicle has one.

 Do not let the other end touch anything until the next step. The other end of the negative (−) cable does not go to the dead battery. It goes to a heavy, unpainted metal engine part or to a remote negative (−) terminal on the vehicle with the dead battery.
10. Connect the other end of the negative (−) cable away from the dead battery, but not near engine parts that move.
11. Start the vehicle with the good battery and run the engine.
12. Press the unlock symbol on the remote keyless entry transmitter to disarm the security system, if equipped.
13. Try to start the vehicle that had the dead battery. If it will not start after a few tries, it needs service.

Notice: **If the jumper cables are connected or removed in the wrong order, electrical shorting may occur and damage the vehicle. The repairs would not be covered by the vehicle warranty. Always connect and remove the jumper cables in the correct order, making sure that the cables do not touch each other or other metal.**

Jumper Cable Removal

Reverse the sequence exactly when removing the jumper cables.

Information Provided by: DEALER E-PROCESS

Towing

Towing the Vehicle

Notice: **Incorrectly towing a disabled vehicle may cause damage. The damage would not be covered by the vehicle warranty.**

Have the vehicle towed on a flatbed car carrier. A wheel lift tow truck could damage the vehicle.

Consult your dealer or a professional towing service if the disabled vehicle must be towed.

To tow the vehicle behind another vehicle for recreational purposes, such as behind a motor home, see “Recreational Vehicle Towing” in this section.

Recreational Vehicle Towing

Recreational vehicle towing means towing the vehicle behind another vehicle – such as behind a motor home. The two most common types of recreational vehicle towing are known as dinghy towing and dolly towing. Dinghy towing is towing the vehicle with all four wheels on the ground. Dolly towing is towing the vehicle with two wheels on the ground and two wheels up on a device known as a dolly.

Here are some important things to consider before recreational vehicle towing:

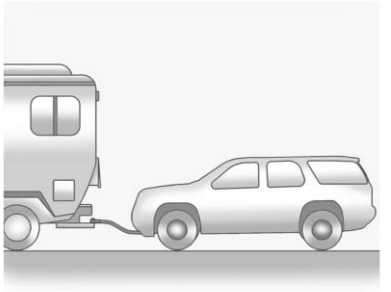
- What is the towing capacity of the towing vehicle? Be sure to read the tow vehicle manufacturer's recommendations.
- What is the distance that will be travelled? Some vehicles have restrictions on how far and how long they can tow.
- Is the proper towing equipment going to be used? See your dealer or trailering professional for additional advice and equipment recommendations.
- Is the vehicle ready to be towed? Just as preparing the vehicle for a long trip, make sure the vehicle is prepared to be towed.

Dinghy Towing

Front-wheel-drive and all-wheel-drive vehicles may be dinghy towed from the front. These vehicles can also be towed by placing them on a platform trailer with all four wheels off of the ground. For other towing options, see “Dolly Towing” following in this section.

For vehicles being dinghy towed, the vehicle should be run at the beginning of each day and at each RV fuel stop for about five minutes. This will ensure proper lubrication of transmission components.

Information Provided by: DEALER e-PROCESS



To tow the vehicle from the front with all four wheels on the ground:

1. Position the vehicle that will be towed and secure it to the towing vehicle.
2. Turn the ignition key to ON/RUN.
3. Shift the transmission to N (Neutral).
4. Turn the ignition key to ACC/ ACCESSORY.
5. Turn all accessories off.

6. To prevent the battery from draining while the vehicle is being towed, remove fuse 32, the Discrete Logic Ignition Switch fuse, from the instrument panel fuse block and store it in a safe location. See *Instrument Panel Fuse Block on page 10-35*.

Notice: **If the vehicle is towed without performing each of the steps listed under "Dinghy Towing," the automatic transmission could be damaged. Be sure to follow all steps of the dinghy towing procedure prior to and after towing the vehicle.**

Notice: **If 105 km/h (65 mph) is exceeded while towing the vehicle, it could be damaged. Never exceed 105 km/h (65 mph) while towing the vehicle.**

Once the destination has been reached:

1. Set the parking brake.
2. Shift the transmission to P (Park).
3. Turn the ignition key to LOCK/OFF.
4. Install fuse 32, the Discrete Logic Ignition Switch fuse. See *Instrument Panel Fuse Block on page 10-35*.
5. Start the engine and let it idle for more than three minutes before driving the vehicle.

Notice: **Too much or too little fluid can damage the transmission. Be sure that the transmission fluid is at the proper level before towing with all four wheels on the ground.**

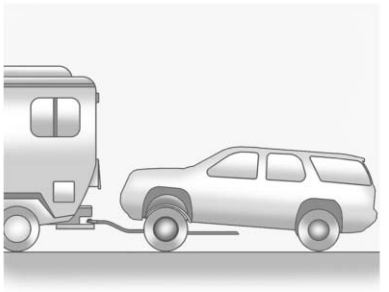
Notice: **Do not tow a vehicle with the front drive wheels on the ground if one of the front tires is a compact spare tire. Towing with two different tire sizes on the front of the vehicle can cause severe damage to the transmission.**

Information Provided by: DEALER e-PROCESS

Dolly Towing (All-Wheel-Drive Vehicles)

All-wheel-drive vehicles should not be towed with two wheels on the ground. To properly tow these vehicles, they should be placed on a platform trailer with all four wheels off of the ground or dinghy towed from the front.

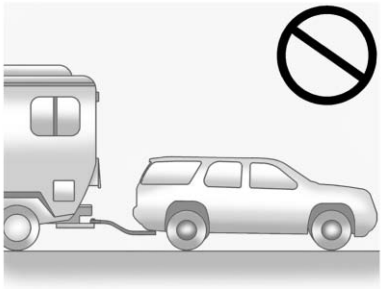
Dolly Towing (Front-Wheel-Drive Vehicles)

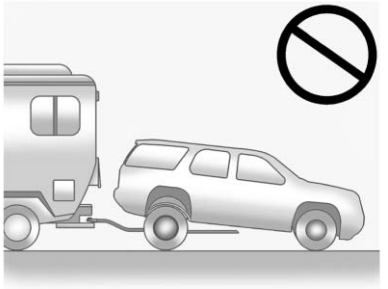


To tow the vehicle from the front with the rear wheels on the ground, do the following:

1. Put the front wheels on a dolly.
2. Move the shift lever to P (Park).
3. Set the parking brake.
4. Secure the vehicle to the dolly.
5. Follow the dolly manufacturer's instructions for preparing the vehicle and dolly for towing.
6. Release the parking brake.

Towing the Vehicle From the Rear





Notice: **Towing the vehicle from the rear could damage it. Also, repairs would not be covered by the vehicle warranty. Never have the vehicle towed from the rear.**

Information Provided by: DEALER E-PROCESS

Appearance Care

Exterior Care

Washing the Vehicle

To preserve the vehicle's finish, wash it often and out of direct sunlight.

Notice: **Do not use petroleum-based, acidic, or abrasive cleaning agents as they can damage the vehicle's paint, metal, or plastic parts. If damage occurs, it would not be covered by the vehicle's warranty. Approved cleaning products can be obtained from your dealer. Follow all manufacturer directions regarding correct product usage, necessary safety precautions, and appropriate disposal of any vehicle care product.**

Notice: **Avoid using high-pressure washes closer than 30 cm (12 in) to the surface of the vehicle. Use of power washers exceeding 8,274 kPa (1,200 psi) can result in damage or removal of paint and decals.**

Rinse the vehicle well, before washing and after, to remove all cleaning agents completely. If they are allowed to dry on the surface, they could stain.

Dry the finish with a soft, clean chamois or an all-cotton towel to avoid surface scratches and water spotting.

Finish Care

Application of aftermarket clearcoat sealant/wax materials is not recommended. If painted surfaces are damaged, see your dealer to have the damage assessed and repaired. Foreign materials such as calcium chloride and other salts, ice melting agents, road oil and tar, tree sap, bird droppings, chemicals from industrial chimneys, etc., can damage the vehicle's finish if they remain on painted surfaces. Wash the vehicle as soon as possible.

Information Provided by: DEALER E-PROCESS

If necessary, use non-abrasive cleaners that are marked safe for painted surfaces to remove foreign matter.

Occasional hand waxing or mild polishing should be done to remove residue from the paint finish. See your dealer for approved cleaning products.

Do not apply waxes or polishes to uncoated plastic, vinyl, rubber, decals, simulated wood, or flat paint as damage can occur.

Notice: **Machine compounding or aggressive polishing on a basecoat/clearcoat paint finish may damage it. Use only non-abrasive waxes and polishes that are made for a basecoat/clearcoat paint finish on the vehicle.**

To keep the paint finish looking new, keep the vehicle garaged or covered whenever possible.

Protecting Exterior Bright Metal Parts

Regularly clean bright metal parts with water or chrome polish on chrome or stainless steel trim, if necessary.

For aluminum, never use auto or chrome polish, steam, or caustic soap to clean. A coating of wax, rubbed to a high polish, is recommended for all bright metal parts.

Cleaning Exterior Lamps/ Lenses and Emblems

Use only lukewarm or cold water, a soft cloth, and a car washing soap to clean exterior lamps, lenses and emblems. Follow instructions under "Washing the Vehicle" in this section.

Windshield and Wiper Blades

Clean the outside of the windshield with glass cleaner.

Clean rubber blades using a lint-free cloth or paper towel soaked with windshield washer fluid or a mild detergent. Wash the windshield thoroughly when cleaning the blades. Bugs, road grime, sap, and a buildup of vehicle wash/wax treatments may cause wiper streaking.

Replace the wiper blades if they are worn or damaged. Damage can be caused by extreme dusty conditions, sand, salt, heat, sun, snow, and ice.

Weatherstrips

Apply silicone grease on weatherstrips to make them last longer, seal better, and not stick or squeak. Lubricate weatherstrips once a year. Black marks from rubber material on painted surfaces can be removed by rubbing with a clean cloth. See *Recommended Fluids and Lubricants on page 11-12*.

Tires

Use a stiff brush with tire cleaner to clean the tires.

Notice: **Using petroleum-based tire dressing products on the vehicle may damage the paint finish and/or tires. When applying a tire dressing, always wipe off any overspray from all painted surfaces on the vehicle.**

Wheels and Trim — Aluminum or Chrome

Use a soft, clean cloth with mild soap and water to clean the wheels. After rinsing thoroughly with clean water, dry with a soft, clean towel. A wax may then be applied.

Notice: **Chrome wheels and other chrome trim may be damaged if the vehicle is not washed after driving on roads that have been sprayed with magnesium, calcium, or sodium chloride.**

Information Provided by: DEALER E-PROCESS

These chlorides are used on roads for conditions such as ice and dust. Always wash the chrome with soap and water after exposure.

Notice: **To avoid surface damage, do not use strong soaps, chemicals, abrasive polishes, cleaners, brushes, or cleaners that contain acid on aluminum or chrome-plated wheels. Use only approved cleaners. Also, never drive a vehicle with aluminum or chrome-plated wheels through an automatic car wash that uses silicone carbide tire cleaning brushes. Damage could occur and the repairs would not be covered by the vehicle warranty.**

Steering, Suspension, and Chassis Components

Visually inspect the front and rear suspension and steering system for damaged, loose, or missing parts or signs of wear. Inspect the power steering for proper hook-up, binding, leaks, cracks, chafing, etc. Visually check constant velocity joints, rubber boots, and axle seals for leaks.

Body Component Lubrication

Lubricate all key lock cylinders, hood hinges, liftgate hinges, and the steel fuel door hinge unless the components are plastic. Applying silicone grease on weatherstrips with a clean cloth will make them last longer, seal better, and not stick or squeak.

Underbody Maintenance

Use plain water to flush dirt and debris from the vehicle's underbody. Your dealer or an underbody car washing system can do this. If not removed, rust and corrosion can develop.

Sheet Metal Damage

If the vehicle is damaged and requires sheet metal repair or replacement, make sure the body repair shop applies anti-corrosion material to parts repaired or replaced to restore corrosion protection.

Original manufacturer replacement parts will provide the corrosion protection while maintaining the vehicle warranty.

Finish Damage

Quickly repair minor chips and scratches with touch-up materials available from your dealer to avoid corrosion. Larger areas of finish damage can be corrected in your dealer's body and paint shop.

Chemical Paint Spotting

Airborne pollutants can fall upon and attack painted vehicle surfaces causing blotchy, ring-shaped discolorations, and small, irregular dark spots etched into the paint surface.

Information Provided by: DEALER E-PROCESS

Interior Care

To prevent dirt particle abrasions, regularly clean the vehicle's interior. Immediately remove any soils. Note that newspapers or dark garments that can transfer color to home furnishings can also permanently transfer color to the vehicle's interior.

Use a soft bristle brush to remove dust from knobs and crevices on the instrument cluster. Using a mild soap solution, immediately remove hand lotions, sunscreen, and insect repellent from all interior surfaces or permanent damage may result.

Your dealer may have products for cleaning the interior. Use cleaners specifically designed for the surfaces being cleaned to prevent permanent damage. Apply all cleaners directly to the cleaning cloth. Do not spray cleaners directly on any switches or controls. Cleaners should be removed quickly. Never allow cleaners to remain on the surface being cleaned for extended periods of time.

Cleaners may contain solvents that can become concentrated in the interior. Before using cleaners, read and adhere to all safety instructions on the label. While cleaning the interior, maintain adequate ventilation by opening the doors and windows.

To prevent damage, do not clean the interior using the following cleaners or techniques:

- Never use a razor or any other sharp object to remove a soil from any interior surface.
- Never use a brush with stiff bristles.
- Never rub any surface aggressively or with excessive pressure.
- Do not use laundry detergents or dishwashing soaps with degreasers. For liquid cleaners, use approximately 20 drops per 3.78 L (1 gal) of water. A concentrated soap solution will leave a residue that creates streaks and attracts dirt. Do not use solutions that contain strong or caustic soap.
- Do not heavily saturate the upholstery when cleaning.
- Do not use solvents or cleaners containing solvents.

Interior Glass

To clean, use a terry cloth fabric dampened with water. Wipe droplets left behind with a clean dry cloth. Commercial glass cleaners may be used, if necessary, after cleaning the interior glass with plain water.

Notice: **To prevent scratching, never use abrasive cleaners on automotive glass. Abrasive cleaners or aggressive cleaning may damage the rear window defogger.**

Information Provided by: DEALER E-PROCESS

Notice: **Cleaning the windshield with water during the first three to six months of ownership will reduce tendency to fog.**

Speaker Covers

Vacuum around a speaker cover gently, so that the speaker will not be damaged. Clean spots with just water and mild soap.

Coated Moldings

Coated moldings should be cleaned.

- When lightly soiled, wipe with a sponge or soft lint-free cloth dampened with water.
- When heavily soiled, use warm soapy water.

Fabric/Carpet/Suede

Start by vacuuming the surface using a soft brush attachment. If a rotating brush attachment is being used during vacuuming, only use it on the floor carpet. Before cleaning, gently remove as much of the soil as possible using one of the following techniques:

- Gently blot liquids with a paper towel. Continue blotting until no more soil can be removed.
- For solid soils, remove as much as possible prior to vacuuming.

To clean:

1. Saturate a clean lint-free colorfast cloth with water or club soda. Microfiber cloth is recommended to prevent lint transfer to the fabric or carpet.
2. Remove excess moisture by gently wringing until water does not drip from the cleaning cloth.
3. Start on the outside edge of the soil and gently rub toward the center. Fold the cleaning cloth to a clean area frequently to prevent forcing the soil in to the fabric.
4. Continue gently rubbing the soiled area until there is no longer any color transfer from the soil to the cleaning cloth.
5. If the soil is not completely removed, use a mild soap solution followed only by club soda or plain water.

If the soil is not completely removed, it may be necessary to use a commercial upholstery cleaner or spot lifter. Test a small hidden area for colorfastness before using a commercial upholstery cleaner or spot lifter. If ring formation occurs, clean the entire fabric or carpet.

Following the cleaning process, a paper towel can be used to blot excess moisture.

Information Provided by: DEALER E-PROCESS

Cleaning High Gloss Surfaces and Vehicle Information and Radio Displays

For vehicles with high gloss surfaces or vehicle displays, use a microfiber cloth to wipe surfaces. Before wiping the surface with the microfiber cloth, use a soft bristle brush to remove dirt that could scratch the surface. Then use the microfiber cloth by gently rubbing to clean. Never use window cleaners or solvents. Periodically hand wash the microfiber cloth separately, using mild soap. Do not use bleach or fabric softener. Rinse thoroughly and air dry before next use.

Notice: **Do not attach a device with a suction cup to the display. This may cause damage and would not be covered by the warranty.**

Instrument Panel, Leather, Vinyl, & Other Plastic Surfaces

Use a soft microfiber cloth dampened with water to remove dust and loose dirt. For a more thorough cleaning, use a soft microfiber cloth dampened with a mild soap solution.

Notice: **Soaking or saturating leather, especially perforated leather, as well as other interior surfaces, may cause permanent damage. Wipe excess moisture from these surfaces after cleaning and allow them to dry naturally. Never use heat, steam, spot lifters, or spot removers. Do not use cleaners that contain silicone or wax-based products. Cleaners containing these solvents can permanently change the appearance and feel of leather or soft trim and are not recommended.**

Do not use cleaners that increase gloss, especially on the instrument panel. Reflected glare can decrease visibility through the windshield under certain conditions.

Notice: **Use of air fresheners may cause permanent damage to plastics and painted surfaces. If an air freshener comes in contact with any plastic or painted surface in the vehicle, blot immediately and clean with a soft cloth dampened with a mild soap solution. Damage caused by air fresheners would not be covered by the vehicle warranty.**

Cargo Cover and Convenience Net

Wash with warm water and mild detergent. Do not use chlorine bleach. Rinse with cold water, and then dry completely.

Information Provided by: DEALER E-PROCESS

Care of Safety Belts

Keep belts clean and dry.

⚠ WARNING

Do not bleach or dye safety belts. It may severely weaken them. In a crash, they might not be able to provide adequate protection. Clean safety belts only with mild soap and lukewarm water.

Floor Mats

⚠ WARNING

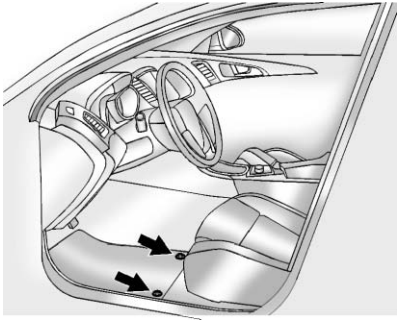
If a floor mat is the wrong size or is not properly installed, it can interfere with the pedals. Interference with the pedals can cause unintended acceleration and/or increased stopping distance which can cause a crash and injury. Make sure the floor mat does not interfere with the pedals.

Use the following guidelines for proper floor mat usage.

- The original equipment floor mats were designed for your vehicle. If the floor mats need replacing, it is recommended that GM certified floor mats be purchased. Non-GM floor mats may not fit properly and may interfere with the accelerator or brake pedal. Always check that the floor mats do not interfere with the pedals.
- Use the floor mat with the correct side up. Do not turn it over.
- Do not place anything on top of the driver side floor mat.
- Use only a single floor mat on the driver side.
- Do not place one floor mat on top of another.

Information Provided by: DEALER E-PROCESS

Removing and Replacing the Floor Mat



The driver side floor mat is held in place by two retainers.

1. Pull up on the rear of the floor mat to unlock each retainer and remove.
2. Reinstall by lining up the floor mat retainer openings over the carpet retainers and snap into position.
3. Make sure the floor mat is properly secured and verify that it does not interfere with the pedals.

Information Provided by:
DEALER E-PROCESS

Service and Maintenance

General Information
General Information 11-1

Maintenance Schedule
Maintenance Schedule 11-3

Special Application Services
Special Application Services 11-8

Additional Maintenance and Care
Additional Maintenance and Care 11-9

Recommended Fluids, Lubricants, and Parts
Recommended Fluids and Lubricants 11-12
Maintenance Replacement Parts 11-13

Maintenance Records
Maintenance Records 11-15

General Information

Your vehicle is an important investment. This section describes the required maintenance for the vehicle. Follow this schedule to help protect against major repair expenses resulting from neglect or inadequate maintenance. It may also help to maintain the value of the vehicle if it is sold. It is the responsibility of the owner to have all required maintenance performed.

Your dealer has trained technicians who can perform required maintenance using genuine replacement parts. They have up-to-date tools and equipment for fast and accurate diagnostics. Many dealers have extended evening and Saturday hours, courtesy transportation, and online scheduling to assist with service needs.

Information Provided by: DEALER E-PROCESS

Your dealer recognizes the importance of providing competitively priced maintenance and repair services. With trained technicians, the dealer is the place for routine maintenance such as oil changes and tire rotations and additional maintenance items like tires, brakes, batteries, and wiper blades.

Notice: **Damage caused by improper maintenance can lead to costly repairs and may not be covered by the vehicle warranty. Maintenance intervals, checks, inspections, recommended fluids, and lubricants are important to keep the vehicle in good working condition.**

The Tire Rotation and Required Services are the responsibility of the vehicle owner. It is recommended to have your dealer perform these services every 12 000 km/7,500 mi. Proper vehicle maintenance helps to keep the vehicle in good working condition, improves fuel economy, and reduces vehicle emissions.

Because of the way people use vehicles, maintenance needs vary. There may need to be more frequent checks and services. The Additional Required Services - Normal are for vehicles that:

- Carry passengers and cargo within recommended limits on the Tire and Loading Information label. See *Vehicle Load Limits on page 9-14*.
- Are driven on reasonable road surfaces within legal driving limits.
- Use the recommended fuel. See *Recommended Fuel on page 9-48*.

Refer to the information in the Maintenance Schedule Additional Required Services - Normal chart.

The Additional Required Services - Severe are for vehicles that are:

- Mainly driven in heavy city traffic in hot weather.
- Mainly driven in hilly or mountainous terrain.
- Frequently towing a trailer.
- Used for high speed or competitive driving.
- Used for taxi, police, or delivery service.

Refer to the information in the Maintenance Schedule Additional Required Services - Severe chart.

⚠ WARNING

Performing maintenance work can be dangerous and can cause serious injury. Perform maintenance work only if the required information, proper tools, and equipment are available.
If they are not, see your dealer to have a trained technician do the work. See *Doing Your Own Service Work on page 10-3*.

Information Provided by: DEALER E-PROCESS

Maintenance Schedule

Owner Checks and Services

At Each Fuel Stop

- Check the engine oil level. See *Engine Oil on page 10-8*.

Once a Month

- Check the tire inflation pressures. See *Tire Pressure on page 10-45*.
- Inspect the tires for wear. See *Tire Inspection on page 10-50*.
- Check the windshield washer fluid level. See *Washer Fluid on page 10-20*.

Engine Oil Change

When the CHANGE ENGINE OIL SOON message displays, have the engine oil and filter changed within the next 1 000 km/600 mi. If driven under the best conditions, the engine oil life system might not indicate the need for vehicle service for more than a year. The engine oil and filter must be changed at least once a year and the oil life system must be reset. Your trained dealer technician can perform this work. If the engine oil life system is reset accidentally, service the vehicle within 5 000 km/3,000 mi since the last service. Reset the oil life system when the oil is changed. See *Engine Oil Life System on page 10-11*.

Tire Rotation and Required Services Every 12 000 km/ 7,500 mi

Rotate the tires, if recommended for the vehicle, and perform the following services. See *Tire Rotation on page 10-51*.

- Check engine oil level and oil life percentage. If needed, change engine oil and filter, and reset oil life system. See *Engine Oil on page 10-8* and *Engine Oil Life System on page 10-11*.
- Check engine coolant level. See *Engine Coolant on page 10-15*.
- Check windshield washer fluid level. See *Washer Fluid on page 10-20*.
- Visually inspect windshield wiper blades for wear, cracking, or contamination. See *Exterior Care on page 10-73*. Replace worn or damaged wiper blades. See *Wiper Blade Replacement on page 10-25*.

Information Provided by: DEALER E-PROCESS

- Check tire inflation pressures. See *Tire Pressure on page 10-45*.
- Inspect tire wear. See *Tire Inspection on page 10-50*.
- Visually check for fluid leaks.
- Inspect engine air cleaner filter. See *Engine Air Cleaner/Filter on page 10-12*.
- Inspect brake system.
- Visually inspect steering, suspension, and chassis components for damaged, loose, or missing parts or signs of wear. See *Exterior Care on page 10-73*.
- Check restraint system components. See *Safety System Check on page 3-17*.
- Visually inspect fuel system for damage or leaks.
- Visually inspect exhaust system and nearby heat shields for loose or damaged parts.
- Lubricate body components. See *Exterior Care on page 10-73*.
- Check starter switch. See *Starter Switch Check on page 10-23*.
- Check automatic transmission shift lock control function. See *Automatic Transmission Shift Lock Control Function Check on page 10-24*.
- Check ignition transmission lock. See *Ignition Transmission Lock Check on page 10-24*.
- Check parking brake and automatic transmission park mechanism. See *Park Brake and P (Park) Mechanism Check on page 10-24*.
- Check accelerator pedal for damage, high effort, or binding. Replace if needed.
- Visually inspect gas strut for signs of wear, cracks, or other damage. Check the hold open ability of the strut. See your dealer if service is required.
- Inspect sunroof track and seal, if equipped. See *Sunroof on page 2-18*.

Information Provided by: DEALER E-PROCESS

Maintenance Schedule Additional Required Services – Normal	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Change automatic transmission fluid, if equipped. If filter is serviceable, change filter.													✓							
Change transfer case fluid, if equipped with AWD. (4)													✓							
Drain, flush, and fill engine cooling system. (5)																				✓
Visually inspect accessory drive belts. (6) (7)																				✓
Replace brake fluid. (6)																				✓

Information Provided by:
DEALER E-PROCESS

Footnotes — Maintenance Schedule Additional Required Services — Normal

(1) Or every two years, whichever comes first. More frequent replacement may be needed if the vehicle is driven in areas with heavy traffic, areas with poor air quality, or areas with high dust levels. Replacement may also be needed if there is a reduction in air flow, excessive window fogging, or odors.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

(3) Or every four years, whichever comes first.

(4) Do not directly power wash the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid. Contaminated fluid will decrease the life of the transfer case and should be replaced.

(5) Or every five years, whichever comes first. See *Cooling System on page 10-14*.

(6) Or every 10 years, whichever comes first.

(7) Inspect for fraying, excessive cracking, or damage; replace, if needed.

Information Provided by:
DEALER E-PROCESS

Maintenance Schedule Additional Required Services – Severe	12 000 km/7,500 mi	24 000 km/15,000 mi	36 000 km/22,500 mi	48 000 km/30,000 mi	60 000 km/37,500 mi	72 000 km/45,000 mi	84 000 km/52,500 mi	96 000 km/60,000 mi	108 000 km/67,500 mi	120 000 km/75,000 mi	132 000 km/82,500 mi	144 000 km/90,000 mi	156 000 km/97,500 mi	168 000 km/105,000 mi	180 000 km/112,500 mi	192 000 km/120,000 mi	204 000 km/127,500 mi	216 000 km/135,000 mi	228 000 km/142,500 mi	240 000 km/150,000 mi
Rotate tires and perform Required Services. Check engine oil level and oil life percentage. Change engine oil and filter, if needed.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Replace passenger compartment air filter. (1)			✓			✓			✓			✓			✓			✓		
Inspect evaporative control system. (2)						✓						✓						✓		
Replace engine air cleaner filter. (3)						✓						✓						✓		
Change automatic transmission fluid, if equipped. If filter is serviceable, change filter.						✓						✓						✓		
Change transfer case fluid, if equipped with AWD. (4)						✓						✓						✓		
Replace spark plugs. Inspect spark plug wires.													✓							
Drain, flush, and fill engine cooling system. (5)																				✓
Visually inspect accessory drive belts. (6) (7)																				✓
Replace brake fluid. (6)																				✓

Information Provided by:
DEALER E-PROCESS

Footnotes — Maintenance Schedule Additional Required Services — Severe

(1) Or every two years, whichever comes first. More frequent replacement may be needed if the vehicle is driven in areas with heavy traffic, areas with poor air quality, or areas with high dust levels. Replacement may also be needed if there is a reduction in air flow, excessive window fogging, or odors.

(2) Check all fuel and vapor lines and hoses for proper hook-up, routing, and condition. Check that the purge valve, if the vehicle has one, works properly. Replace as needed.

(3) Or every four years, whichever comes first.

(4) Do not directly power wash the transfer case output seals. High pressure water can overcome the seals and contaminate the transfer case fluid. Contaminated fluid will decrease the life of the transfer case and should be replaced.

(5) Or every five years, whichever comes first. See *Cooling System on page 10-14*.

(6) Or every 10 years, whichever comes first.

(7) Inspect for fraying, excessive cracking, or damage; replace, if needed.

Special Application Services

- Severe Commercial Use Vehicles Only: Lubricate chassis components every 5 000 km/ 3,000 mi.
- Have underbody flushing service performed once a year.

Information Provided by: DEALER E-PROCESS

Additional Maintenance and Care

Your vehicle is an important investment and caring for it properly may help to avoid future costly repairs. To maintain vehicle performance, additional maintenance services may be required. It is recommended that your dealer perform these services — their trained dealer technicians know your vehicle best. Your dealer can also perform a thorough assessment with a multi-point inspection to recommend when your vehicle may need attention. The following list is intended to explain the services and conditions to look for that may indicate services are required.

Battery

The battery supplies power to start the engine and operate any additional electrical accessories.

- To avoid break-down or failure to start the vehicle, maintain a battery with full cranking power.
- Trained dealer technicians have the diagnostic equipment to test the battery and ensure that the connections and cables are corrosion-free.

Belts

- Belts may need replacing if they squeak or show signs of cracking or splitting.
- Trained dealer technicians can inspect the belts and recommend replacement when necessary.

Brakes

Brakes stop the vehicle and are crucial to safe driving.

- Signs of brake wear may include chirping, grinding, or squealing noises, or difficulty stopping.
- Trained dealer technicians have access to tools and equipment to inspect the brakes and recommend quality parts engineered for the vehicle.

Fluids

Proper fluid levels and approved fluids protect the vehicle's systems and components. See *Recommended Fluids and Lubricants on page 11-12* for GM approved fluids.

- Engine oil and windshield washer fluid levels should be checked at every fuel fill.
- Instrument cluster lights may come on to indicate that fluids may be low and need to be filled.

Hoses

Hoses transport fluids and should be regularly inspected to ensure that there are no cracks or leaks. With a multi-point inspection, your dealer can inspect the hoses and advise if replacement is needed.

Information Provided by: DEALER E-PROCESS

Lamps

Properly working headlamps, taillamps, and brake lamps are important to see and be seen on the road.

- Signs that the headlamps need attention include dimming, failure to light, cracking, or damage. The brake lamps need to be checked periodically to ensure that they light when braking.
- With a multi-point inspection, your dealer can check the lamps and note any concerns.

Shocks and Struts

Shocks and struts help aid in control for a smoother ride.

- Signs of wear may include steering wheel vibration, bounce/sway while braking, longer stopping distance, or uneven tire wear.
- As part of the multi-point inspection, trained dealer technicians can visually inspect the shocks and struts for signs of leaking, blown seals, or damage, and can advise when service is needed.

Tires

Tires need to be properly inflated, rotated, and balanced. Maintaining the tires can save money, fuel, and can reduce the risk of tire failure.

- Signs that the tires need to be replaced include three or more visible treadwear indicators; cord or fabric showing through the rubber; cracks or cuts in the tread or sidewall; or a bulge or split in the tire.
- Trained dealer technicians can inspect and recommend the right tires. Your dealer can also provide tire/wheel balancing services to ensure smooth vehicle operation at all speeds. Your dealer sells and services name brand tires.

Provided by: DEALER E-PROCESS

Vehicle Care

To help keep the vehicle looking like new, vehicle care products are available from your dealer. For information on how to clean and protect the vehicle's interior and exterior, see *Interior Care on page 10-76* and *Exterior Care on page 10-73*.

Wheel Alignment

Wheel alignment is critical for ensuring that the tires deliver optimal wear and performance.

- Signs that the alignment may need to be adjusted include pulling, improper vehicle handling, or unusual tire wear.
- Your dealer has the required equipment to ensure proper wheel alignment.

Windshield

For safety, appearance, and the best viewing, keep the windshield clean and clear.

- Signs of damage include scratches, cracks, and chips.
- Trained dealer technicians can inspect the windshield and recommend proper replacement if needed.

Wiper Blades

Wiper blades need to be cleaned and kept in good condition to provide a clear view.

- Signs of wear include streaking, skipping across the windshield, and worn or split rubber.
- Trained dealer technicians can check the wiper blades and replace them when needed.

Information Provided by:
DEALER E-PROCESS

Recommended Fluids, Lubricants, and Parts

Recommended Fluids and Lubricants

Usage	Fluid/Lubricant
Engine Oil	Use only engine oil licensed to the dexos1 specfication, or equivalent, of the proper SAE viscosity grade. ACDelco dexos1 Synthetic Blend is recommended. See *Engine Oil on page 10-8*.
Engine Coolant	50/50 mixture of clean, drinkable water and use only DEX-COOL Coolant. See *Engine Coolant on page 10-15*.
Hydraulic Brake System	DOT 3 Hydraulic Brake Fluid (GM Part No. 88862806, in Canada 88863462).
Windshield Washer	Automotive windshield washer fluid that meets regional freeze protection requirements.
Hydraulic Power Steering System (V6 engines only)	DEXRON®-VI Automatic Transmission Fluid.
Automatic Transmission	DEXRON®-VI Automatic Transmission Fluid.
Transfer Case (All-Wheel Drive)	Transfer Case Fluid (GM Part No. 88900401, in Canada 89021678).
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).

Information Provided by: DEALER E-PROCESS

Usage	Fluid/Lubricant
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl	Lubriplate Lubricant Aerosol (GM Part No. 89021668, in Canada 89021674) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Hood and Door Hinges	Multi-Purpose Lubricant, Superlube (GM Part No. 12346241, in Canada 10953474).
Power Liftgate Actuator Ball Joint	Multi-Purpose Lubricant (GM Part No. 89021668, in Canada 89021674).
Weatherstrip Conditioning	Weatherstrip Lubricant (GM Part No. 3634770, in Canada 10953518) or Dielectric Silicone Grease (GM Part No. 12345579, in Canada 10953481).

Maintenance Replacement Parts

Replacement parts identified below by name, part number, or specification can be obtained from your dealer.

Part	GM Part Number	ACDelco Part Number
Engine Air Cleaner/Filter	25899727	A3138C
Engine Oil Filter		
2.4L L4 Engine	12605566	PF457G
3.6L V6 Engine	89017525	PF63
Passenger Compartment Air Filter	20901295	CF177

Information Provided by: DEALER e-PROCESS

Part	GM Part Number	ACDelco Part Number
Spark Plugs		
2.4L L4 Engine	12620540	41-108
3.6L V6 Engine	12622561	41-109
Wiper Blades		
Driver Side – 60 cm (23.6 in)	22868413	—
Passenger Side – 42.5 cm (16.7 in)	22868414	—
Rear – 32.5 cm (12.8 in)	20999459	—

Information Provided by:
DEALER E-PROCESS

Maintenance Records

After the scheduled services are performed, record the date, odometer reading, who performed the service, and the type of services performed in the boxes provided. Retain all maintenance receipts.

Date	Odometer Reading	Serviced By	Services Performed

Information Provided by:
DEALER E-PROCESS

Date	Odometer Reading	Serviced By	Services Performed

Information Provided by:
DEALER E-PROCESS

Technical Data

Vehicle Identification
Vehicle Identification Number (VIN) 12-1
Service Parts Identification Label 12-1

Vehicle Data
Capacities and Specifications 12-2
Engine Drive Belt Routing . . . 12-4

Vehicle Identification

Vehicle Identification Number (VIN)





This legal identifier is in the front corner of the instrument panel, on the left side of the vehicle. It can be seen through the windshield from outside. The VIN also appears on the Vehicle Certification and Service Parts labels and certificates of title and registration.

Information Provided by:
DEALER E-PROCESS

Engine Identification

The eighth character in the VIN is the engine code. This code identifies the vehicle's engine, specifications, and replacement parts. See “Engine Specifications” under *Capacities and Specifications on page 12-2* for the vehicle's engine code.

Service Parts Identification Label

This label, on the inside of the glove box, has the following information:

- Vehicle Identification Number (VIN).
- Model designation.
- Paint information.
- Production options and special equipment.

Do not remove this label from the vehicle.

Vehicle Data

Capacities and Specifications

Application	Capacities	
	Metric	English
Air Conditioning Refrigerant	For the air conditioning system refrigerant type and charge amount, see the refrigerant label under the hood. See your dealer for more information.	
Engine Cooling System		
2.4L L4 Engine	7.8 L	8.2 qt
3.6L V6 Engine	10.2 L	10.8 qt
Engine Oil with Filter		
2.4L L4 Engine	4.7 L	5.0 qt
3.6L V6 Engine	5.7 L	6.0 qt
Fuel Tank		
2.4L L4 Engine	71.1 L	18.8 gal
3.6L V6 Engine	79.1 L	20.9 gal
Wheel Nut Torque	190 N•m	140 lb ft
All capacities are approximate. When adding, be sure to fill to the approximate level, as recommended in this manual. Recheck fluid level after filling.		

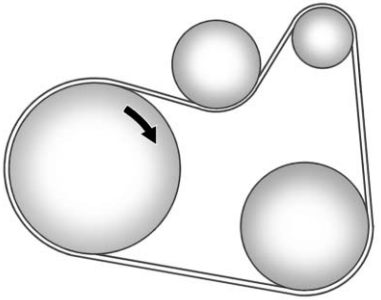
Information Provided by:
DEALER e-PROCESS

Engine Specifications

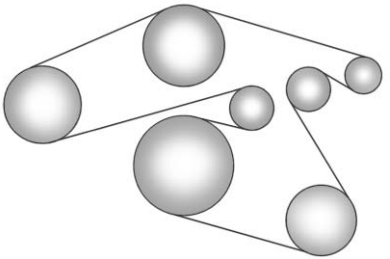
Engine	VIN Code	Transmission	Spark Plug Gap
2.4L L4	K	Automatic	0.9 mm (0.035 in)
3.6L V6	3	Automatic	1.1 mm (0.043 in)

Information Provided by:
DEALER E-PROCESS

Engine Drive Belt Routing



2.4L L4 Engine



3.6L V6 Engine

Information Provided by:
DEALER E-PROCESS

Customer Information

Customer Information

Customer Satisfaction Procedure (U.S. and Canada) 13-2
Customer Satisfaction Procedure (Mexico) 13-4
Customer Assistance Offices (U.S. and Canada) 13-5
Customer Assistance Offices (Mexico) 13-5
Customer Assistance for Text Telephone (TTY) Users (U.S. and Canada) 13-6
Online Owner Center 13-6
GM Mobility Reimbursement Program (U.S. and Canada) 13-7
Roadside Assistance Program (Mexico) 13-7
Roadside Assistance Program (U.S. and Canada) 13-11
Scheduling Service Appointments (U.S. and Canada) 13-13
Courtesy Transportation Program (U.S. and Canada) 13-13
Collision Damage Repair (U.S. and Canada) 13-14
Service Publications Ordering Information 13-17

Reporting Safety Defects

Reporting Safety Defects to the United States Government 13-18
Reporting Safety Defects to the Canadian Government 13-18
Reporting Safety Defects to General Motors 13-19

Vehicle Data Recording and Privacy

Vehicle Data Recording and Privacy 13-19
Event Data Recorders 13-19
OnStar® 13-20
Infotainment System 13-20
Radio Frequency Identification (RFID) 13-20
Radio Frequency Statement 13-21

Information Provided by: DEALER E-PROCESS

Customer Information

Customer Satisfaction Procedure (U.S. and Canada)

Your satisfaction and goodwill are important to your dealer and to GMC. Normally, any concerns with the sales transaction or the operation of the vehicle will be resolved by your dealer's sales or service departments. Sometimes, however, despite the best intentions of all concerned, misunderstandings can occur. If your concern has not been resolved to your satisfaction, the following steps should be taken:

STEP ONE: Discuss your concern with a member of dealership management. Normally, concerns can be quickly resolved at that level. If the matter has already been reviewed with the sales, service, or parts manager, contact the owner of your dealership or the general manager.

STEP TWO: If after contacting a member of dealership management, it appears your concern cannot be resolved by your dealership without further help, in the U.S., call 1-800-462-8782. In Canada, call General Motors of Canada Customer Care Centre at 1-800-263-3777 (English) or 1-800-263-7854 (French).

We encourage you to call the toll-free number in order to give your inquiry prompt attention. Have the following information available to give the Customer Assistance representative:

- Vehicle Identification Number (VIN). This is available from the vehicle registration or title, or the plate at the top left of the instrument panel and visible through the windshield.
- Dealership name and location.
- Vehicle delivery date and present mileage.

Information Provided by: DEALER E-PROCESS

When contacting GMC, remember that your concern will likely be resolved at a dealer's facility. That is why we suggest following Step One first.

STEP THREE — U.S. Owners: Both General Motors and your dealer are committed to making sure you are completely satisfied with the new vehicle. However, if you continue to remain unsatisfied after following the procedure outlined in Steps One and Two, you can file with the Better Business Bureau (BBB) Auto Line® Program to enforce your rights.

The BBB Auto Line Program is an out-of-court program administered by the Council of Better Business Bureaus to settle automotive disputes regarding vehicle repairs or the interpretation of the New Vehicle Limited Warranty. Although you may be required to resort to this informal dispute resolution program prior to

filling out a court action, use of the program is free of charge and your case will generally be heard within 40 days. If you do not agree with the decision given in your case, you may reject it and proceed with any other venue for relief available to you.

You may contact the BBB Auto Line Program using the toll-free telephone number or write them at the following address:

BBB Auto Line Program
Council of Better Business Bureaus, Inc.
4200 Wilson Boulevard
Suite 800
Arlington, VA 22203-1838

Telephone: 1-800-955-5100
www.dr.bbb.org/goauto

This program is available in all 50 states and the District of Columbia. Eligibility is limited by vehicle age, mileage, and other factors. General Motors reserves the right to change eligibility limitations and/or discontinue its participation in this program.

STEP THREE — Canadian Owners: In the event that you do not feel your concerns have been addressed after following the procedure outlined in Steps One and Two, General Motors of Canada Limited wants you to be aware of its participation in a no-charge Mediation/Arbitration Program. General Motors of Canada Limited has committed to binding arbitration of owner disputes involving factory-related vehicle service claims. The program provides for the review of the facts involved by an impartial third party arbiter, and may include an informal hearing before the arbiter. The program is designed so that the entire dispute settlement process, from the time you file your complaint to the final decision, should be completed in approximately 70 days. We believe our impartial program offers advantages over courts in most jurisdictions because it is informal, quick, and free of charge.

For further information concerning eligibility in the Canadian Motor Vehicle Arbitration Plan (CAMVAP), call toll-free 1-800-207-0685, or call the General Motors Customer Care Centre, 1-800-263-3777 (English), 1-800-263-7854 (French), or write to:

Mediation/Arbitration Program
c/o Customer Care Centre
General Motors of Canada Limited
Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

The inquiry should be accompanied by the Vehicle Identification Number (VIN).

Information Provided by: DEALER E-PROCESS

Customer Satisfaction Procedure (Mexico)



Did you get the Warranty Extension Plan? This plan is recommended by General Motors to supplement the warranty included with the new vehicle purchase.

See your dealer for details.

Customer Assistance Procedure

Owner satisfaction and goodwill are very important to your dealer and General Motors.

Normally, any problem with the transaction, sale, or usage of the vehicle must be handled by your dealer sales or service departments. However, we recognize that despite the good intentions of all parties involved, sometimes a misunderstanding may occur.

If you have a problem that has not been satisfactorily handled through the normal means, we suggest the following steps:

STEP ONE

Explain your case to your dealer service agent, service manager, dealer sales agent, or sales manager, depending on your case.

Make sure that they have all necessary information. They are interested in your continual satisfaction.

STEP TWO

If you are not satisfied, please contact the general manager or your dealership owner to ask for their help. If they are not able to resolve your case, ask them to contact the right people at General Motors for support, if needed.

Information Provided by:
DEALER E-PROCESS

STEP THREE

If your case is not resolved in a reasonable amount of time by your dealer, please call the General Motors Customer Assistance Center (CAC) and provide the following information:

- Name
- Address
- Phone number
- Model year
- Brand
- Vehicle Identification Number (VIN)
- Mileage
- Delivery date
- Description of the problem
- Dealership name
- Dealership address

See *Customer Assistance Offices (U.S. and Canada) on page 13-5* or *Customer Assistance Offices (Mexico) on page 13-5*.

Customer Assistance Offices (U.S. and Canada)

GMC encourages customers to call the toll-free number for assistance. However, if a customer wishes to write or e-mail GMC, the letter should be addressed to:

United States and Puerto Rico

GMC Customer Assistance Center
P.O. Box 33172
Detroit, MI 48232-5172

www.GMC.com

1-800-GMC-8782 (1-800-462-8782)
1-800-462-8583 (For Text Telephone Devices (TTYs))
Roadside Assistance:
1-888-881-3302

From U.S. Virgin Islands:

1-800-496-9994

Canada

General Motors of Canada Limited
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7
www.gmc.ca

1-800-263-3777 (English)
1-800-263-7854 (French)
1-800-263-3830 (For Text Telephone Devices (TTYs))
Roadside Assistance:
1-800-268-6800

All Overseas Locations

Please contact the local General Motors Business Unit.

Customer Assistance Offices (Mexico)

To contact the Customer Assistance Center (CAC), use the phone numbers listed in this section. Customer assistance is available Monday through Friday, 08:00 to 20:00 hours, and Saturdays from 08:00 to 15:00 hours.

All e-mail inquiries to the Customer Assistance Center (CAC) should be sent to: cac.gmc@gm.com.

Mexico

From Mexico City

5329-0812

From Other Mexico Locations

01-800-466-0812

United States and Canada

1-866-466-8191

Costa Rica

00-800-052-1005

Guatemala

1-800-999-5252

Panama

00-800-052-0001

Dominican Republic

1-888-751-5301

Information Provided by:

El Salvador

800-6273

Honduras

800-0122-6101

Customer Assistance for Text Telephone (TTY) Users (U.S. and Canada)

To assist customers who are deaf, hard of hearing, or speech impaired and who use Text Telephones (TTYs), GMC has TTY equipment available at its Customer Assistance Center. Any TTY user can communicate with GMC by dialing: 1-800-462-8583. TTY users in Canada can dial 1-800-263-3830.

Online Owner Center

Online Owner Experience (U.S.) my.gmc.com

The GMC online owner experience is a one-stop resource that allows interaction with GMC and keeps important vehicle-specific information in one place.

Membership Benefits

(Vehicle Information): Download owner manuals and view vehicle-specific how-to videos.

(Maintenance Information): View maintenance schedules, required alerts, OnStar onboard vehicle diagnostic information, and schedule service appointments.

(Service History): View printable dealer-recorded service records and self-recorded service records.

(Preferred Dealer Information): Select a preferred dealer and view dealer location, maps, phone numbers, and hours.

(Warranty Tracking Information): Track the vehicle's warranty information.

(Recall Information): View active recalls or search by Vehicle Identification Number (VIN). See *Vehicle Identification Number (VIN) on page 12-1*.

(Other Account Information): View GM Card, SiriusXM Satellite radio, and OnStar account information.

(Live Chat Support): Chat live with online help representatives.

Visit my.gmc.com to register your vehicle.

Information Provided by: DEALER E-PROCESS

GMC Owner Centre (Canada) gmcowner.ca

Take a trip to the GMC Owner Centre:

- Chat live with online help representatives.
- Use the Vehicle Tools section.
- Access third party enthusiast sites and social media networks.
- Locate owner resources such as lease-end, financing, and warranty information.
- Retrieve your favorite articles, quizzes, tips and multimedia galleries organized into the Features and Auto Care Sections.
- Download the owner manual for your vehicle, quickly and easily.
- Find the GMC-recommended maintenance services for your vehicle.

GM Mobility Reimbursement Program (U.S. and Canada)

This program is available to qualified applicants for cost reimbursement of eligible aftermarket adaptive equipment required for the vehicle, such as hand controls or a wheelchair/scooter lift for the vehicle.

For more information on the limited offer, visit www.gmmobility.com or call the GM Mobility Assistance Center at 1-800-323-9935. Text Telephone (TTY) users, call 1-800-833-9935.

General Motors of Canada also has a Mobility Program. Call 1-800-GM-DRIVE (463-7483) for details. TTY users call 1-800-263-3830.

Roadside Assistance Program (Mexico)

As a new owner, your vehicle is automatically enrolled in the Roadside Assistance program. The services are available at no cost under the terms and conditions of the program. The Roadside Assistance program is not part of, or included in the coverage provided by the new vehicle limited warranty.

Roadside Assistance provides assistance to the driver and passengers while driving the vehicle within your city of residence or on any passable road in Mexico, the United States, and Canada. Services are subject to the

Information Provided by: DEALER E-PROCESS

limitations described in the following pages. Program coverage varies by country.

Roadside Assistance is available 24 hours a day, 365 days of the year.

This program expires two years from the date of the invoice for the vehicle, regardless of vehicle mileage and changes in vehicle ownership.

For more information about the renewal of this program at the end of its term, contact the GMC Customer Assistance Center at 01-800-466-0801.

Services Provided

- **Flat Tire Change**: If unable to change a flat tire, Roadside Assistance will provide towing service to the nearest authorized GMC dealership. It is the owner's responsibility for the repair or replacement of the tire. This service is limited to the transfer of the vehicle to the repair facility.
- **Emergency Fuel Delivery**: Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service**: Service to unlock the vehicle if you are locked out.
- **Battery Jump Start**: Service to jump start a dead battery.
- ***Emergency Messages**: Transmission of urgent phone messages.
- ***Emergency Calls**: Call for emergency services.
- ***Dealership Location Assistance**: Information regarding addresses and telephone numbers for GMC dealers.
- **Emergency Towing**: Tow to the nearest dealer for warranty service if the vehicle cannot be driven.

 If the vehicle is involved in an accident during the commission of a crime, administrative violation, or breach of traffic regulations, Roadside Assistance will not provide service. When the vehicle is not accessible to be towed, all maneuvers required to access it will be at the owner's expense.

 If the vehicle is in another city outside of your residence, Roadside Assistance is limited to moving the vehicle to the nearest dealer. If you would like the vehicle moved to a different dealer, you will be asked to cover the difference in cost at the time of the move.

Information Provided by: DEALER E-PROCESS

If the vehicle cannot be received by the nearest GMC dealer due to scheduling conflicts, the vehicle will be taken to a safe place where it will remain for up to 48 hours until it can be taken to the dealer. If the storage costs exceed the amount authorized, the owner is responsible to pay the difference at the time of service. Contact Roadside Assistance for more information on authorized amounts.

- ***Trip Interruption**: This service is provided if you are prevented from further usage of your vehicle while traveling and it is not possible for the nearest GMC dealership to repair the vehicle the same day, requiring the vehicle to stay at the dealership for a night or more. If this happens, in addition to the previously listed services and prior to confirmation by the dealership, you are entitled to choose one of the following alternatives, within the limits of existing Roadside Assistance program guidelines. If the costs exceed the amount authorized for these services, you must pay the difference at the time of service.

 Roadside Assistance will coordinate hotel accommodations for all vehicle travelers for up to two nights.

 A rental car will be provided for up to two days and the vehicle must be returned to its original destination, excluding vehicles with a carrying capacity greater than 3.5 tons.

 Complimentary Transportation: If you prefer to continue your trip to the intended destination or return to your place of residence, and the trip requires more than eight hours driving on the road, transportation for the driver and passengers by first class bus or coach commercial airline will be provided to a location chosen by Roadside Assistance, depending on availability at the chosen destination. Restrictions apply based on vehicle specifications.

 If you are on the road, taxi service to the nearest bus station or airport will be provided.

- ***Complimentary Transportation for Vehicle Pick Up**: Transportation to pick up your vehicle after repairs are complete. Once the dealer has reported that the vehicle has been repaired, Roadside Assistance will provide bus or commercial airline one-way service (subject to availability) for the person designated by you to collect your vehicle at the dealership's location if you or the designated person are not in the same town or city as the dealership.

*These services are not provided for U.S. or Canada residents. All services provided in the U.S. and

DEALER E-PROCESS

Canada are at the owner's expense and will be reimbursed by Roadside Assistance.

Services Not Included in Roadside Assistance

Roadside Assistance does not cover or reimburse services for the following:

- Events caused by fraud or bad faith by the driver.
- Vehicle immobilization situations due to a major force or unforeseen circumstances, such as natural phenomena of an extraordinary nature, earthquakes, volcanic eruptions, and other cyclonic storms.
- Vehicle immobilization situations arising from car accidents caused by the driver of the vehicle or third parties. This means any occurrence that causes physical injury to the occupants and/or the vehicle caused by external forces.
- Acts of terrorism, riot or uproar, armed forces or police actions which prevent timely delivery of assistance services.
- Food service, beverages, telephone calls, or other extra costs. Accommodation costs apply only to Mexico per the terms and conditions of the Roadside Assistance program.
- Any damage to the vehicle without intent, derived from the services provided.
- Cost of towing a trailer when choosing a GMC dealer that is nearest to the temporary storage facility for the disabled vehicle.
- Cost of all maneuvers required to access the vehicle when it is not available to be towed.
- Cost of fuel provided.

Routine vehicle repair costs are not covered by the Roadside Assistance program. For more information, see your new vehicle warranty.

Information Provided by: DEALER e-PROCESS

Contacting Roadside Assistance

Roadside Assistance services are of no cost to you and available 24 hours a day, 365 days a year. Costs are only incurred in situations that exceed the limits of the program, some of which are listed previously in this section.

To contact Roadside Assistance by phone, use the following numbers:

Mexico

01-800-466-0801

United States

1-866-466-8902

Canada

1-800-268-6800

E-mail

asistencia.GMC@gm.com

GMC reserves the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

Roadside Assistance Program (U.S. and Canada)

For U.S.-purchased vehicles, call 1-888-881-3302; (Text Telephone (TTY): 1-888-889-2438).

For Canadian-purchased vehicles, call 1-800-268-6800.

Service is available 24 hours a day, 365 days a year.

Calling for Assistance

When calling Roadside Assistance, have the following information ready:

- Your name, home address, and home telephone number
- Telephone number of your location
- Location of the vehicle
- Model, year, color, and license plate number of the vehicle
- Odometer reading, Vehicle Identification Number (VIN), and delivery date of the vehicle
- Description of the problem

Coverage

Services are provided up to 5 years/ 160 000 km (100,000 mi), whichever comes first.

In the U.S., anyone driving the vehicle is covered. In Canada, a person driving the vehicle without permission from the owner is not covered.

Roadside Assistance is not a part of the New Vehicle Limited Warranty. GMC and General Motors of Canada Limited reserve the right to make any changes or discontinue the Roadside Assistance program at any time without notification.

GMC and General Motors of Canada Limited reserve the right to limit services or payment to an owner or driver if they decide the claims are made too often, or the same type of claim is made many times.

Services Provided

- **Emergency Fuel Delivery:** Delivery of enough fuel for the vehicle to get to the nearest service station.
- **Lock-Out Service:** Service to unlock the vehicle if you are locked out. A remote unlock may be available if you have OnStar®. For security reasons, the driver must present identification before this service is given.
- **Emergency Tow From a Public Road or Highway:** Tow to the nearest GMC dealer for warranty service, or if the vehicle was in a crash and cannot be driven. Assistance is also given when the vehicle is stuck in the sand, mud, or snow.

Information Provided by: DEALER E-PROCESS

- **Flat Tire Change:** Service to change a flat tire with the spare tire. The spare tire, if equipped, must be in good condition and properly inflated. It is the owner's responsibility for the repair or replacement of the tire if it is not covered by the warranty.
- **Battery Jump Start:** Service to jump start a dead battery.
- **Trip Interruption Benefits and Assistance:** If your trip is interrupted due to a warranty failure, incidental expenses may be reimbursed during the 5 years/(160 000 km) 100,000 mi Powertrain warranty period. Items considered are hotel, meals, and rental car.

Services Not Included in Roadside Assistance

- Impound towing caused by violation of any laws.
- Legal fines.
- Mounting, dismounting, or changing of snow tires, chains, or other traction devices.
- Towing or services for vehicles driven on a non-public road or highway.

Services Specific to Canadian-Purchased Vehicles

- **Fuel Delivery:** Reimbursement is approximately $5 Canadian. Diesel fuel delivery may be restricted. Propane and other fuels are not provided through this service.
- **Lock-Out Service:** Vehicle registration is required.
- **Trip Interruption Benefits and Assistance:** Must be over 250 kilometres from where your trip was started to qualify. General Motors of Canada Limited requires pre-authorization, original detailed receipts, and a copy of the repair orders. Once authorization has been received, the Roadside Assistance advisor will help to make arrangements and explain how to receive payment.
- **Alternative Service:** If assistance cannot be provided right away, the Roadside Assistance advisor may give permission to get local emergency road service. You will receive payment, up to $100, after sending the original receipt to Roadside Assistance. Mechanical failures may be covered, however any cost for parts and labor for repairs not covered by the warranty are the owner responsibility.

Information Provided by: DEALER E-PROCESS

Scheduling Service Appointments (U.S. and Canada)

When the vehicle requires warranty service, contact your dealer and request an appointment. By scheduling a service appointment and advising the service consultant of your transportation needs, your dealer can help minimize your inconvenience.

If the vehicle cannot be scheduled into the service department immediately, keep driving it until it can be scheduled for service, unless, of course, the problem is safety related. If it is, please call your dealership, let them know this, and ask for instructions.

If your dealer requests you to bring the vehicle for service, you are urged to do so as early in the work day as possible to allow for same-day repair.

Courtesy Transportation Program (U.S. and Canada)

To enhance your ownership experience, we and our participating dealers are proud to offer Courtesy Transportation, a customer support program for vehicles with the Bumper-to-Bumper (Base Warranty Coverage period in Canada), extended powertrain, and/or hybrid-specific warranties in both the U.S. and Canada.

Several Courtesy Transportation options are available to assist in reducing inconvenience when warranty repairs are required.

Courtesy Transportation is not a part of the New Vehicle Limited Warranty. A separate booklet entitled “Limited Warranty and Owner Assistance Information” furnished with each new vehicle provides detailed warranty coverage information.

Information Provided by: DEALER e-PROCESS

Transportation Options

Warranty service can generally be completed while you wait. However, if you are unable to wait, GM helps to minimize inconvenience by providing several transportation options. Depending on the circumstances, your dealer can offer one of the following:

Shuttle Service

Shuttle service is the preferred means of offering Courtesy Transportation. Dealers may provide shuttle service to get you to your destination with minimal interruption of your daily schedule. This includes one-way or round-trip shuttle service within reasonable time and distance parameters of your dealer's area.

Public Transportation or Fuel Reimbursement

If the vehicle requires overnight warranty repairs, and public transportation is used instead of your dealer's shuttle service, the expense must be supported by

original receipts and can only be up to the maximum amount allowed by GM for shuttle service. In addition, for U.S. customers, should you arrange transportation through a friend or relative, limited reimbursement for reasonable fuel expenses may be available. Claim amounts should reflect actual costs and be supported by original receipts. See your dealer for information regarding the allowance amounts for reimbursement of fuel or other transportation costs.

Courtesy Rental Vehicle

Your dealer may arrange to provide you with a courtesy rental vehicle or reimburse you for a rental vehicle that you obtain if the vehicle is kept for an overnight warranty repair. Rental reimbursement will be limited and must be supported by original receipts. This requires that you sign and complete a rental agreement and meet state/provincial, local, and rental vehicle provider requirements. Requirements vary and may include minimum age requirements, insurance coverage, credit card, etc. You are responsible for fuel usage charges and may also be responsible for taxes, levies, usage fees, excessive mileage, or rental usage beyond the completion of the repair.

It may not be possible to provide a like vehicle as a courtesy rental.

Additional Program Information

All program options, such as shuttle service, may not be available at every dealer. Please contact your dealer for specific information about availability. All Courtesy Transportation arrangements will be administered by appropriate dealer personnel.

General Motors reserves the right to unilaterally modify, change, or discontinue Courtesy Transportation at any time and to resolve all questions of claim eligibility pursuant to the terms and conditions described herein at its sole discretion.

Information Provided by: DEALER E-PROCESS

Collision Damage Repair (U.S. and Canada)

If the vehicle is involved in a collision and it is damaged, have the damage repaired by a qualified technician using the proper equipment and quality replacement parts. Poorly performed collision repairs diminish the vehicle resale value, and safety performance can be compromised in subsequent collisions.

Collision Parts

Genuine GM Collision parts are new parts made with the same materials and construction methods as the parts with which the vehicle was originally built. Genuine GM Collision parts are the best choice to ensure that the vehicle's designed appearance, durability, and safety are preserved. The use of Genuine GM parts can help maintain the GM New Vehicle Limited Warranty.

Recycled original equipment parts may also be used for repair. These parts are typically removed from vehicles that were total losses in prior crashes. In most cases, the parts being recycled are from undamaged sections of the vehicle. A recycled original equipment GM part may be an acceptable choice to maintain the vehicle's originally designed appearance and safety performance; however, the history of these parts is not known. Such parts are not covered by the GM New Vehicle Limited Warranty, and any related failures are not covered by that warranty.

Aftermarket collision parts are also available. These are made by companies other than GM and may not have been tested for the vehicle. As a result, these parts may fit poorly, exhibit premature durability/ corrosion problems, and may not perform properly in subsequent collisions. Aftermarket parts are not covered by the GM New Vehicle Limited Warranty, and any vehicle failure related to such parts is not covered by that warranty.

Repair Facility

GM also recommends that you choose a collision repair facility that meets your needs before you ever need collision repairs. Your dealer may have a collision repair center with GM-trained technicians and state-of-the-art equipment, or be able to recommend a collision repair center that has GM-trained technicians and comparable equipment.

Insuring the Vehicle

Protect your investment in the GM vehicle with comprehensive and collision insurance coverage. There are significant differences in the quality of coverage afforded by various insurance policy terms. Many insurance policies provide reduced protection to the GM vehicle by limiting compensation for damage repairs through the use of aftermarket collision parts. Some insurance companies will not specify aftermarket collision parts. When purchasing insurance, we recommend that you ensure that the vehicle will be repaired with GM original equipment collision parts. If such insurance coverage is not available from your current insurance carrier, consider switching to another insurance carrier.

If the vehicle is leased, the leasing company may require you to have insurance that ensures repairs with Genuine GM Original Equipment Manufacturer (OEM) parts or Genuine Manufacturer replacement parts. Read the lease carefully, as you may be charged at the end of the lease for poor quality repairs.

If a Crash Occurs

If there has been an injury, call emergency services for help. Do not leave the scene of a crash until all matters have been taken care of.

Information Provided by: DEALER E-PROCESS

Move the vehicle only if its position puts you in danger, or you are instructed to move it by a police officer.

Give only the necessary information to police and other parties involved in the crash.

For emergency towing see *Roadside Assistance Program (Mexico) on page 13-7* or *Roadside Assistance Program (U.S. and Canada) on page 13-11*.

Gather the following information:

- Driver name, address, and telephone number.
- Driver license number.
- Owner name, address, and telephone number.
- Vehicle license plate number.
- Vehicle make, model, and model year.
- Vehicle Identification Number (VIN).
- Insurance company and policy number.
- General description of the damage to the other vehicle.

Choose a reputable repair facility that uses quality replacement parts. See “Collision Parts” earlier in this section.

If the airbag has inflated, see *What Will You See after an Airbag Inflates? on page 3-24*.

Managing the Vehicle Damage Repair Process

In the event that the vehicle requires damage repairs, GM recommends that you take an active role in its repair. If you have a pre-determined repair facility of choice, take the vehicle there, or have it towed there. Specify to the facility that any required replacement collision parts be original equipment parts, either new Genuine GM parts or recycled original GM parts. Remember, recycled parts will not be covered by the GM vehicle warranty.

Insurance pays the bill for the repair, but you must live with the repair. Depending on your policy limits, your insurance company may initially value the repair using aftermarket parts. Discuss this with the repair professional, and insist on Genuine GM parts. Remember, if the vehicle is leased, you may be obligated to have the vehicle repaired with Genuine GM parts, even if your insurance coverage does not pay the full cost.

If another party's insurance company is paying for the repairs, you are not obligated to accept a repair valuation based on that insurance company's collision policy repair limits, as you have no contractual limits with that company. In such cases, you can have control of the repair and parts choices as long as the cost stays within reasonable limits.

DEALER E-PROCESS

Service Publications Ordering Information

Service Manuals

Service Manuals have the diagnosis and repair information on the engines, transmission, axle, suspension, brakes, electrical, steering, body, etc.

Service Bulletins

Service Bulletins give additional technical service information needed to knowledgeably service General Motors cars and trucks. Each bulletin contains instructions to assist in the diagnosis and service of the vehicle.

Owner Information

Owner publications are written specifically for owners and intended to provide basic operational information about the vehicle. The Owner Manual includes the Maintenance Schedule for all models.

In-Portfolio: Includes a Portfolio, Owner Manual, and Warranty Booklet.

RETAIL SELL PRICE:
$35.00 (U.S.) plus handling and shipping fees.

Without Portfolio: Owner Manual only.

RETAIL SELL PRICE:
$25.00 (U.S.) plus handling and shipping fees.

Current and Past Models

Technical Service Bulletins and Manuals are available for current and past model GM vehicles.

ORDER TOLL FREE:
1-800-551-4123 Monday – Friday
8:00 AM – 6:00 PM Eastern Time

For Credit Card Orders Only (VISA-MasterCard-Discover), visit Helm, Inc. at: www.helminc.com.

Or write to:

Helm, Incorporated
Attention: Customer Service
47911 Halyard Drive
Plymouth, MI 48170

Prices are subject to change without notice and without incurring obligation. Allow ample time for delivery.

All listed prices are quoted in U.S. funds. Make checks payable in U.S. funds.

Information Provided by:
DEALER E-PROCESS

Reporting Safety Defects

Reporting Safety Defects to the United States Government

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying General Motors.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign.

However, NHTSA cannot become involved in individual problems between you, your dealer, or General Motors.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to *http://www.safercar.gov;* or write to:

Administrator, NHTSA
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

You can also obtain other information about motor vehicle safety from *http://www.safercar.gov*.

Reporting Safety Defects to the Canadian Government

If you live in Canada, and you believe that the vehicle has a safety defect, notify Transport Canada immediately, and notify General Motors of Canada Limited. Call Transport Canada at 1-800-333-0510 or write to:

Transport Canada
Road Safety Branch
80 rue Noel
Gatineau, QC J8Z 0A1

Information Provided by: DEALER E-PROCESS

Reporting Safety Defects to General Motors

In addition to notifying NHTSA (or Transport Canada) in a situation like this, please notify General Motors.

Call 1-800-GMC-8782 (1-800-462-8782), or write:

GMC Customer Assistance Center
P.O. Box 33172
Detroit, MI 48232-5172

In Canada, call 1-800-263-3777 (English) or 1-800-263-7854 (French), or write:

General Motors of Canada Limited
Customer Care Centre, Mail Code: CA1-163-005
1908 Colonel Sam Drive
Oshawa, Ontario L1H 8P7

Vehicle Data Recording and Privacy

The vehicle has a number of computers that record information about the vehicle's performance and how it is driven. For example, the vehicle uses computer modules to monitor and control engine and transmission performance, to monitor the conditions for airbag deployment and deploy them in a crash, and, if equipped, to provide antilock braking to help the driver control the vehicle. These modules may store data to help the dealer technician service the vehicle. Some modules may also store data about how the vehicle is operated, such as rate of fuel consumption or average speed. These modules may retain personal preferences, such as radio presets, seat positions, and temperature settings.

Information Provided by: DEALER E-PROCESS

Event Data Recorders

This vehicle is equipped with an event data recorder (EDR). The main purpose of an EDR is to record, in certain crash or near crash-like situations, such as an air bag deployment or hitting a road obstacle, data that will assist in understanding how a vehicle's systems performed. The EDR is designed to record data related to vehicle dynamics and safety systems for a short period of time, typically 30 seconds or less. The EDR in this vehicle is designed to record such data as:

- How various systems in your vehicle were operating;
- Whether or not the driver and passenger safety belts were buckled/fastened;
- How far (if at all) the driver was depressing the accelerator and/or brake pedal; and,
- How fast the vehicle was traveling.

These data can help provide a better understanding of the circumstances in which crashes and injuries occur. NOTE: EDR data are recorded by your vehicle only if a non-trivial crash situation occurs; no data are recorded by the EDR under normal driving conditions and no personal data (e.g., name, gender, age, and crash location) are recorded. However, other parties, such as law enforcement, could combine the EDR data with the type of personally identifying data routinely acquired during a crash investigation.

To read data recorded by an EDR, special equipment is required, and access to the vehicle or the EDR is needed. In addition to the vehicle manufacturer, other parties, such as law enforcement, that have the special equipment, can read the information if they have access to the vehicle or the EDR.

GM will not access this data or share it with others except: with the consent of the vehicle owner or, if the vehicle is leased, with the consent of the lessee; in response to an official request by police or similar government office; as part of GM's defense of litigation through the discovery process; or, as required by law. Data that GM collects or receives may also be used for GM research needs or may be made available to others for research purposes, where a need is shown and the data is not tied to a specific vehicle or vehicle owner.

OnStar®

If the vehicle is equipped with OnStar® and has an active subscription, refer to the OnStar® Terms and Conditions for information on data collection and use. See *OnStar Overview on page 14-1*.

Information Provided by: DEALER E-PROCESS

Infotainment System

If the vehicle is equipped with a navigation system as part of the infotainment system, use of the system may result in the storage of destinations, addresses, telephone numbers, and other trip information. See the infotainment manual for information on stored data and for deletion instructions.

Radio Frequency Identification (RFID)

RFID technology is used in some vehicles for functions such as tire pressure monitoring and ignition system security, as well as in connection with conveniences such as Remote Keyless Entry (RKE) transmitters for remote door locking/unlocking and starting, and in-vehicle transmitters for garage door openers. RFID technology in GM vehicles does not use or record personal information or link with any other GM system containing personal information.

Radio Frequency Statement

This vehicle has systems that operate on a radio frequency that comply with Part 15 of the Federal Communications Commission (FCC) rules and with Industry Canada Standards RSS-GEN/210/220/310.

Operation is subject to the following two conditions:

1. The device may not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation of the device.

Changes or modifications to any of these systems by other than an authorized service facility could void authorization to use this equipment.

Information Provided by:
DEALER E-PROCESS

✍ NOTES

Information Provided by:
DEALER E-PROCESS

OnStar

OnStar Overview
OnStar Overview 14-1

OnStar Services
Emergency 14-2
Security 14-2
Navigation 14-2
Connections 14-4
Diagnostics 14-5

OnStar Additional Information
OnStar Additional Information 14-5

OnStar Overview



If equipped, this vehicle has a comprehensive, in-vehicle system that can connect to a live Advisor for Emergency, Security, Navigation, Connection, and Diagnostic Services.

The OnStar system status light is next to the OnStar buttons. If the status light is:

- Solid Green: System is ready.
- Flashing Green: On a call.
- Red: Indicates a problem.

Push ON or call 1-888-4ONSTAR (1-888-466-7827) to speak to an Advisor.

Information Provided by:
DEALER E-PROCESS

Push to:

- Make a call, end a call, or answer an incoming call.
- Give OnStar Hands-Free Calling voice commands.
- Give OnStar Turn-by-Turn Navigation voice commands. Requires the available Directions and Connections service plan.

Push ON to connect to a live Advisor to:

- Verify account information or update contact information.
- Get driving directions. Requires the available Directions and Connections service plan.
- Receive On-Demand Diagnostics for a check of the vehicle's key operating systems.
- Receive Roadside Assistance.

Push the OnStar Emergency button SOS to get a priority connection to an Emergency Advisor available 24/7 to:

- Get help for an emergency.
- Be a Good Samaritan or respond to an AMBER Alert.
- Get crisis assistance and evacuation routes.

OnStar Services

Emergency

With Automatic Crash Response, the built-in system can automatically connect to help in most crashes, even if help cannot be requested.

Push SOS to connect to an Emergency Advisor. GPS technology is used to identify the vehicle location and can provide critical information to emergency personnel. The Advisor is also trained to offer critical assistance in emergency situations before first responders arrive.

Security

OnStar provides services like Stolen Vehicle Assistance, Remote Ignition Block, and Roadside Assistance, if the vehicle is equipped with these services. OnStar can unlock the vehicle doors remotely, if it is equipped with automatic door locks, and can help police locate the vehicle if it is stolen.

Navigation

OnStar navigation requires the Directions and Connections service plan.

Push OnStar to receive directions or have them sent to the vehicle navigation screen, if equipped. Destinations can also be forwarded to the vehicle from Google Maps™ or MapQuest.com. The OnStar mapping database is continuously updated. Visit www.onstar.com for coverage maps.

Information Provided by: DEALER E-PROCESS

Turn-by-Turn Navigation

1. Push OnStar to connect to a live Advisor.
2. Request directions.
3. Directions are downloaded to the vehicle.
4. Follow the voice-guided commands.

Using Voice Commands During a Planned Route

Cancel Route

1. Push . System responds: “OnStar ready,” then a tone. Say “Cancel route.” System responds: “Do you want to cancel directions?”
2. Say “Yes.” System responds: “OK, request completed, thank you, goodbye.”

Route Preview

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Route preview.” System responds with the next three maneuvers.
3. Say “Goodbye.” Exits voice commands.

Repeat

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Repeat.” System responds with the last direction given, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

Get My Destination

1. Push . System responds: “OnStar ready,” then a tone.
2. Say “Get my destination.” System responds with address and the distance to the destination, then responds with “OnStar ready,” then a tone.
3. Say “Goodbye.” Exits voice commands.

Other Navigation Services Available from OnStar

OnStar eNav: Allows subscribers to send destinations from Google Maps and MapQuest.com to their Turn-by-Turn Navigation or screen-based navigation system. When ready, the directions will be downloaded to the vehicle.

Destination Download: Push OnStar, then request the Advisor to download directions to the navigation system in the vehicle. After the call ends, push the “Go” button on the navigation screen to begin driving directions.

Information Provided by: DEALER E-PROCESS

Destinations can also be downloaded on the go. For information about eNav, Destination Download, and coverage maps visit www.onstar.com.

Connections

OnStar Hands-Free Calling allows calls to be made and received from the vehicle. The vehicle can also be controlled from a cell phone through the OnStar RemoteLink mobile app. See www.onstar.com for coverage maps.

Hands-Free Calling

1. Push ⓟ. System responds: “OnStar ready.”
2. Say “Call.” System responds: “Please say the name or number to call.”
3. Say the entire number without pausing, including a “1” and the area code. System responds: “OK calling.”

Calling 911 Emergency

1. Press ⓟ. The system responds “OnStar Ready,” followed by a tone.
2. Say “Call.” The system responds “Please say the name or number to call.”
3. Say “911” without pausing. The system responds “911.”
4. Say “Call.” The system responds “OK, dialing 911.”

Retrieve My Number

1. Push ⓟ. System responds: “OnStar ready.”
2. Say “My number.” System responds: “Your OnStar Hands-Free Calling number is.”

End a Call

Push ⓟ. System responds: “Call ended.”

Store a Name Tag for Speed Dialing

1. Push ⓟ. System responds: “OnStar ready.”
2. Say “Store.” System responds: “Please say the number you would like to store.”
3. Say the entire number without pausing. System responds: “Please say the name tag.”
4. Pick a name tag. System responds: “About to store <name tag>. Does that sound OK?”
5. Say “Yes” or “No” to try again. System responds: “OK, storing <name tag>.”

Information Provided by: DEALER E-PROCESS

Place a Call Using a Stored Number

1. Push . System responds: “OnStar ready.”
2. Say “Call <name tag>.” System responds: “OK, calling <name tag>.”

Verify Minutes and Expiration

Push and say “Minutes” then “Verify” to check how many minutes remain and their expiration date.

OnStar Mobile App

Download the OnStar RemoteLink mobile app to your iPhone or Android smartphone to check vehicle fuel level, oil life, or tire pressure; to start the vehicle (if equipped) or unlock it; or to connect to an OnStar Advisor. For OnStar RemoteLink information and compatibility, see www.onstar.com.

Diagnostics

OnStar Vehicle Diagnostics will perform a vehicle check every month. It will check the engine, transmission, antilock brakes, and major vehicle systems. It also checks the tire pressures, if the vehicle is equipped with the Tire Pressure Monitoring System. If a diagnostics check is needed between e-mails, push , and an Advisor can run a check.

OnStar Additional Information

Transferring Service

Push to request account transfer eligibility information. The Advisor can assist in canceling or removing account information. If OnStar receives information that vehicle ownership has changed, OnStar may send a voice message to the vehicle, requesting updated account information.

Reactivation for Subsequent Owners

Push and follow the prompts to speak to an Advisor as soon as possible after acquiring the vehicle. The Advisor will update vehicle records and will explain the OnStar service offers and options available.

Information Provided by: DEALER E-PROCESS

How OnStar Service Works

Automatic Crash Response, Emergency Services, Crisis Assist, Stolen Vehicle Assistance, Vehicle Diagnostics, Remote Door Unlock, Roadside Assistance, Turn-by-Turn Navigation, and Hands-Free Calling are available on most vehicles. Not all OnStar services are available everywhere or on all vehicles. For more information, a full description of OnStar services, system limitations, and OnStar terms and conditions, see www.onstar.com (U.S.) or www.onstar.ca (Canada); contact OnStar at 1-888-4ONSTAR (1-888-466-7827) or TTY 1-877-248-2080; or push ⓞ to speak with an Advisor. OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

OnStar service cannot work unless your vehicle is in a place where OnStar has an agreement with a wireless service provider for service in that area, and the wireless service provider has coverage, network capacity, reception, and technology compatible with OnStar service. Service involving location information about the vehicle cannot work unless GPS signals are available, unobstructed, and compatible with the OnStar hardware. OnStar service may not work if the OnStar equipment is not properly installed or it has not been properly maintained. If equipment or software is added, connected, or modified, OnStar service may not work. Other problems beyond the control of OnStar may prevent service such as hills, tall buildings, tunnels, weather, electrical system design and architecture of the vehicle, damage to the vehicle in a crash, or wireless phone network congestion or jamming.

Information Provided by: DEALER E-PROCESS

See *Radio Frequency Statement on page 13-21* for information regarding Part 15 of the Federal Communications Commission (FCC) rules and Industry Canada Standards RSS-GEN/210/220/310.

Services for People with Disabilities

Advisors provide services to help subscribers with physical disabilities and medical conditions.

Push ⓞ for help with:

- Locating a gas station with an attendant to pump gas.
- Finding a hotel, restaurant, etc., that meets accessibility needs.
- Providing directions to the closest hospital or pharmacy in urgent situations.

TTY Users

OnStar has the ability to communicate to the deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The

available dealer-installed TTY system can provide in-vehicle access to all of the OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

OnStar.com

The website provides access to account information, manages the OnStar subscription, and allows viewing of videos of each service. Get subscription plan pricing and sign up for OnStar Vehicle Diagnostics. Click on the “My Account” tab on the home page.

OnStar Personal Identification Number (PIN)

A PIN is needed to access some of the OnStar services, like Remote Door Unlock and Stolen Vehicle Assistance. You will be prompted to change the PIN the first time when speaking with an Advisor. To change the OnStar PIN, call OnStar and provide the Advisor with the current number.

Warranty

OnStar equipment may be warranted as part of the New Vehicle Limited Warranty. The manufacturer of the vehicle furnishes detailed warranty information.

Languages

The vehicle can be programmed to respond in French or Spanish. Push ⓞ and ask an Advisor. Advisors can speak French or Spanish.

Potential Issues

Some OnStar services are disabled after five days. OnStar cannot perform Remote Door Unlock or Stolen Vehicle Assistance after the vehicle has been off continuously for five days. After five days, OnStar can contact Roadside Assistance and a locksmith to help gain access to the vehicle.

Global Positioning System (GPS)

- Obstruction of the GPS can occur in a large city with tall buildings; in parking garages; around airports; in tunnels, underpasses, or parking garages; or in an area with very dense trees. If GPS signals are not available, the OnStar system should still operate to call OnStar. However, OnStar could have difficulty identifying the exact location.
- In emergency situations, OnStar can use the last stored GPS location to send to emergency responders.
- A temporary loss of GPS can cause loss of the ability to send a Turn-by-Turn Navigation route. The Advisor may give a verbal route or may ask for a call back after the vehicle is driven into an open area.

Information Provided by: DEALER E-PROCESS

Cellular and GPS Antennas

Avoid placing items over or near the antenna to prevent blocking cellular and GPS signal reception. Cellular reception is required for OnStar to send remote signals to the vehicle.

Unable to Connect to OnStar Message

If there is limited cellular coverage or the cellular network has reached maximum capacity, this message may come on. Push ⓞn to try the call again or try again after driving a few miles into another cellular area.

Vehicle and Power Issues

OnStar services require a vehicle electrical system, wireless service, and GPS satellite technologies to be available and operating for features to function properly. These systems may not operate if the battery is discharged or disconnected.

Add-on Electrical Equipment

The OnStar system is integrated into the electrical architecture of the vehicle. Do not add any electrical equipment. See *Add-On Electrical Equipment on page 9-59*. Added electrical equipment may interfere with the operation of the OnStar system and cause it to not operate.

Privacy

The complete OnStar Privacy Statement may be found at www.onstar.com. Privacy-sensitive users of wireless communications are cautioned that the privacy of any information sent via wireless cellular communications cannot be assured. Third parties may unlawfully intercept or access transmissions and private communications without consent.

OnStar - libcurl and unzip acknowledgments

Certain OnStar components include libcurl and unzip software. Below are the notices and licenses associated with this software:

libcurl:

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2010, Daniel Stenberg, <daniel@haxx.se>.

All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED “AS IS,” WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS

Information Provided by: DEALER E-PROCESS

FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

unzip:

This is version 2005-Feb-10 of the Info-ZIP copyright and license. The definitive version of this document should be available at ftp://ftp.info-zip.org/pub/infozip/license.html indefinitely.

Copyright (c) 1990-2005 Info-ZIP. All rights reserved.

For the purposes of this copyright and license, “Info-ZIP” is defined as the following set of individuals:

Mark Adler, John Bush, Karl Davis, Harald Denker, Jean-Michel Dubois, Jean-loup Gailly, Hunter Goatley, Ed Gordon, Ian Gorman, Chris Herborth, Dirk Haase, Greg Hartwig, Robert Heath, Jonathan Hudson, Paul Kienitz, David Kirschbaum, Johnny Lee, Onno van der Linden, Igor Mandrichenko, Steve P. Miller, Sergio Monesi, Keith Owens, George Petrov, Greg Roelofs, Kai Uwe Rommel, Steve Salisbury, Dave Smith, Steven M. Schweda, Christian Spieler, Cosmin Truta, Antoine Verheijen, Paul von Behren, Rich Wales, Mike White

This software is provided “as is,” without warranty of any kind, express or implied. In no event shall Info-ZIP or its contributors be held liable for any direct, indirect, incidental, special or consequential damages arising out of the use of or inability to use this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. Redistributions of source code must retain the above copyright notice, definition, disclaimer, and this list of conditions.

Information Provided by: DEALER E-PROCESS

2. Redistributions in binary form (compiled executables) must reproduce the above copyright notice, definition, disclaimer, and this list of conditions in documentation and/or other materials provided with the distribution. The sole exception to this condition is redistribution of a standard UnZipSFX binary (including SFXWiz) as part of a self-extracting archive; that is permitted without inclusion of this license, as long as the normal SFX banner has not been removed from the binary or disabled.
3. Altered versions–including, but not limited to, ports to new operating systems, existing ports with new graphical interfaces, and dynamic, shared, or static library versions–must be plainly marked as such and must not be misrepresented as being the original source. Such altered versions also must not be misrepresented as being Info-ZIP releases–including, but not limited to, labeling of the altered versions with the names “Info-ZIP” (or any variation thereof, including, but not limited to, different capitalizations), “Pocket UnZip,” “WiZ” or “MacZip” without the explicit permission of Info-ZIP. Such altered versions are further prohibited from misrepresentative use of the Zip-Bugs or Info-ZIP e-mail addresses or of the Info-ZIP URL(s).
4. Info-ZIP retains the right to use the names “Info-ZIP,” “Zip,” “UnZip,” “UnZipSFX,” “WiZ,” “Pocket UnZip,” “Pocket Zip,” and “MacZip” for its own source and binary releases.

Information Provided by:
DEALER E-PROCESS

A

Accessories and Modifications 10-2
Accessory Power 9-22
Add-On Electrical Equipment 9-59
Additional Information OnStar® 14-5
Adjustments Lumbar, Front Seats 3-5
Air Cleaner/Filter, Engine 10-12
Air Conditioning 8-3
Air Filter, Passenger Compartment 8-6
Air Vents 8-6
Airbag System Check 3-32
How Does an Airbag Restrain? 3-24
Passenger Sensing System 3-26
What Makes an Airbag Inflate? 3-24
Airbag System (cont'd) What Will You See after an Airbag Inflates? 3-24
When Should an Airbag Inflate? 3-22
Where Are the Airbags? 3-21
Airbags Adding Equipment to the Vehicle 3-30
Passenger Status Indicator . . . 5-11
Readiness Light 5-10
Servicing Airbag-Equipped Vehicles 3-30
System Check 3-19
Alarm Vehicle Security 2-12
All-Wheel Drive 10-23, 9-29
Antilock Brake System (ABS) 9-30
Warning Light 5-15
Appearance Care Exterior 10-73
Interior 10-76
Assistance Program, Roadside 13-7, 13-11
Automatic Climate Control System 8-3
Headlamp System 6-2
Transmission 9-26
Transmission Fluid 10-12
Automatic Transmission Manual Mode 9-28
Shift Lock Control Function Check 10-24

B

Battery 10-23
Jump Starting 10-67
Load Management 6-5
Voltage and Charging Messages 5-24
Blade Replacement, Wiper . . . 10-25
Blind Spot Mirrors 2-14
Brake System Warning Light 5-14
Brakes 10-21
Antilock 9-30
Assist 9-31
Fluid 10-22
Parking 9-31
System Messages 5-25

Information Provided by: DEALER E-PROCESS

Braking 9-3
Break-In, New Vehicle 9-19
Bulb Replacement 10-31
Fog Lamps 10-28, 6-4
Headlamp Aiming 10-26
Headlamps 10-27
Headlamps, Front Turn Signal, Sidemarker, and Parking Lamps 10-27
License Plate Lamps 10-30
Taillamps, Turn Signal, Sidemarker, Stoplamps, and Backup Lamps 10-28
Buying New Tires 10-53

C

Calibration 5-5
California
Fuel Requirements 9-48
Perchlorate Materials Requirements 10-2
Warning 10-2
Camera, Rear Vision 9-43
Canadian Vehicle Owners iii
Capacities and Specifications 12-2
Carbon Monoxide
Engine Exhaust 9-25
Liftgate 2-8
Winter Driving 9-12
Cargo
Cover 4-2
Tie-Downs 4-2
Cautions, Danger, and Warnings iv
Center Console Storage 4-1
Chains, Tire 10-57
Charging System Light 5-12
Check
Engine Light 5-12
Ignition Transmission Lock 10-24
Child Restraints
Infants and Young Children 3-35
Lower Anchors and Tethers for Children 3-40
Older Children 3-33
Securing 3-45, 3-48
Systems 3-37
Cleaning
Exterior Care 10-73
Interior Care 10-76
Climate Control Systems 8-1
Air Conditioning 8-1
Automatic 8-3
Heating 8-1
Cluster, Instrument 5-7
Collision Damage Repair 13-14
Compact Spare Tire 10-66
Compass 5-5
Messages 5-25
Connections
OnStar® 14-4
Control of a Vehicle 9-3
Convenience Net 4-2
Convex Mirrors 2-14
Coolant
Engine 10-15
Engine Temperature Gauge . . . 5-9
Cooling System 10-14
Engine Messages 5-25
Courtesy Transportation Program 13-13

Information Provided by:
DEALER E-PROCESS

Cover
Cargo 4-2
Engine 10-8
Cruise Control 9-35
Light 5-20
Messages 5-25
Cupholders 4-1
Customer Assistance 13-6
Offices 13-5
Text Telephone (TTY) Users 13-6
Customer Information
Service Publications Ordering Information 13-17
Customer Satisfaction Procedure 13-2, 13-4

D

Damage Repair, Collision 13-14
Danger, Warnings, and Cautions iv
Data Recorders, Event 13-19
Daytime Running Lamps (DRL) 6-2
Defensive Driving 9-3
Diagnostics
OnStar® 14-5
Distracted Driving 9-2
Dome Lamps 6-4
Door
Ajar Messages 5-25
Locks 2-6
Power Locks 2-7
Drive Belt Routing, Engine 12-4
Drive Systems
All-Wheel Drive 10-23, 9-29
Driver Information Center (DIC) 5-21
Driving
Characteristics and Towing Tips 9-53
Defensive 9-3
Drunk 9-3
For Better Fuel Economy 1-21
Highway Hypnosis 9-11
Hill and Mountain Roads 9-11
If the Vehicle is Stuck 9-14
Loss of Control 9-5
Off-Road 9-6
Off-Road Recovery 9-5
Driving (cont'd)
Vehicle Load Limits 9-14
Wet Roads 9-10
Winter 9-12

E

E85 Fuel 9-50
ECO Button 9-29
Economy Mode
Fuel 9-29
Electrical Equipment, Add-On 9-59
Electrical System
Engine Compartment Fuse Block 10-32
Fuses 10-32
Instrument Panel Fuse Block 10-35
Emergency
OnStar® 14-2
Engine
Air Cleaner/Filter 10-12
Check and Service Engine Soon Light 5-12
Compartment Overview 10-5
Coolant 10-15

Information Provided by: DEALER E-PROCESS

Engine (cont'd)
Coolant Heater 9-23
Coolant Temperature Gauge ... 5-9
Cooling System 10-14
Cooling System Messages ...5-25
Cover 10-8
Drive Belt Routing 12-4
Exhaust 9-25
Oil Life System 10-11
Oil Messages 5-26
Overheating 10-18
Power Messages 5-27
Pressure Light 5-18
Running While Parked 9-26
Starting 9-21
Entry Lighting 6-5
Equipment, Towing 9-58
Event Data Recorders 13-19
Extender, Safety Belt 3-17
Exterior Lamp Controls 6-1

F

Features
Memory 1-8
Filter,
Engine Air Cleaner 10-12
Flash-to-Pass 6-2
Flashers, Hazard Warning 6-3
Flat Tire 10-58
Changing 10-59
Floor Mats 10-79
Fluid
Automatic Transmission 10-12
Brakes 10-22
Power Steering 10-19
Washer 10-20
Fog Lamps
Bulb Replacement 10-28, 6-4
Forward Collision Alert
(FCA) System 9-37
Forward Collision Alert
(FCA) Warning Light 5-16
Front Fog Lamp
Light 5-20
Front Seats
Adjustment 3-3
Heated 3-8
Fuel 9-48
Additives 9-49
E85 (85% Ethanol) 9-50
Economy Driving 1-21
Economy Light 5-19
Filling a Portable Fuel
Container 9-52
Filling the Tank 9-51
Foreign Countries 9-49
Gasoline Specifications 9-48
Gauge 5-8
Low Fuel Warning Light 5-19
Recommended 9-48
Requirements, California 9-48
System Messages 5-27
Fuel Economy Mode 9-29
Fuses 10-32
Engine Compartment
Fuse Block 10-32
Instrument Panel Fuse
Block 10-35

Information Provided by:
DEALER E-PROCESS

G

Garage Door Opener 5-36
Programming 5-36
Gasoline
Specifications 9-48
Gauges
Engine Coolant
Temperature 5-9
Fuel 5-8
Odometer 5-8
Speedometer 5-8
Tachometer 5-8
Warning Lights and
Indicators 5-6
General Information
Service and Maintenance 11-1
Towing 9-53
Vehicle Care 10-2
Glove Box 4-1
GM Mobility Reimbursement
Program 13-7

H

Hazard Warning Flashers 6-3
Head Restraints 3-2
Headlamps
Aiming 10-26
Automatic 6-2
Bulb Replacement 10-27
Daytime Running
Lamps (DRL) 6-2
Flash-to-Pass 6-2
Headlamps, Front Turn
Signal, Sidemarker, and
Parking Lamps 10-27
High-Beam On Light 5-20
High/Low Beam Changer 6-1
Lamps On Reminder 5-20
Heated Front Seats 3-8
Heated Mirrors 2-14
Heater
Engine Coolant 9-23
Heating and Air
Conditioning 8-1, 8-3
High-Beam On Light 5-20
Highway Hypnosis 9-11
Hill and Mountain Roads 9-11
Hill Start Assist (HSA) 9-32
Hood 10-4
Horn 5-3
How to Wear Safety Belts
Properly 3-12

I

Ignition Positions 9-19
Ignition Transmission Lock
Check 10-24
Immobilizer 2-13
Infants and Young Children,
Restraints 3-35
Infotainment 7-1
Infotainment System 13-20
Instrument Cluster 5-7
Introduction iii

Information Provided by:
DEALER E-PROCESS

J

Jump Starting 10-67

K

Key and Lock Messages 5-27
Keyless Entry
Remote (RKE) System 2-3
Keys 2-1

L

Labeling, Tire Sidewall 10-39
Lamps
Daytime Running (DRL) 6-2
Dome 6-4
Exterior Controls 6-1
License Plate 10-30
Malfunction Indicator 5-12
On Reminder 5-20
Reading 6-5
Lane Departure Warning 9-46
Lane Departure Warning
Light 5-16
Lap-Shoulder Belt 3-13
LATCH System
Replacing Parts after a
Crash 3-45
LATCH, Lower Anchors and
Tethers for Children 3-40
Liftgate
Carbon Monoxide 2-8
Lighting
Entry 6-5
Illumination Control 6-4
Lights
Airbag Readiness 5-10
Antilock Brake System
(ABS) Warning 5-15
Brake System Warning 5-14
Charging System 5-12
Cruise Control 5-20
Engine Oil Pressure 5-18
Flash-to-Pass 6-2
Front Fog Lamp 5-20
Fuel Economy 5-19
High-Beam On 5-20
High/Low Beam Changer 6-1
Lights (cont'd)
Lane Departure Warning 5-16
Low Fuel Warning 5-19
Safety Belt Reminders 5-10
Security 5-19
StabiliTrak® OFF 5-17
Tire Pressure 5-18
Traction Control System
(TCS)/StabiliTrak® 5-17
Traction Off 5-16
Locks
Door 2-6
Power Door 2-7
Safety 2-7
Loss of Control 9-5
Low Fuel Warning Light 5-19
Lower Anchors and Tethers
for Children (LATCH
System) 3-40
Lumbar Adjustment 3-5
Front Seats 3-5

Information Provided by:
DEALER E-PROCESS

M

Maintenance
Records 11-15
Maintenance Schedule
Recommended Fluids
and Lubricants 11-12
Malfunction Indicator Lamp 5-12
Manual Mode 9-28
Memory Features 1-8
Memory Seats 3-7
Messages
Airbag System 5-29
Battery Voltage and
Charging 5-24
Brake System 5-25
Compass 5-25
Door Ajar 5-25
Engine Cooling System 5-25
Engine Oil 5-26
Engine Power 5-27
Fuel System 5-27
Key and Lock 5-27
Object Detection System 5-27
Ride Control System 5-28
Security 5-29
Service Vehicle 5-29
Messages (cont'd)
Tire 5-30
Transmission 5-30
Vehicle 5-24
Vehicle Reminder 5-31
Mirrors
Automatic Dimming
Rearview 2-16
Blind Spot 2-14
Convex 2-14
Heated 2-14
Manual Rearview 2-16
Park Tilt 2-15
Power 2-14
Monitor System, Tire
Pressure 10-46

N

Navigation
OnStar® 14-2
Net, Convenience 4-2
New Vehicle Break-In 9-19

O

Object Detection System
Messages 5-27
Object Detection, Side Blind
Zone Alert (SBZA) 9-41
Odometer 5-8
Off-Road 9-6
Driving 9-6
Recovery 9-5
Oil
Engine 10-8
Engine Oil Life System 10-11
Messages 5-26
Pressure Light 5-18
Older Children, Restraints 3-33
Online Owner Center 13-6
OnStar®
System, In Brief 1-22
OnStar® Additional
Information 14-5
OnStar® Connections 14-4
OnStar® Diagnostics 14-5
OnStar® Emergency 14-2
OnStar® Navigation 14-2

Information Provided by: DEALER E-PROCESS

OnStar® Overview 14-1
OnStar® Security 14-2
Ordering
Service Publications 13-17
Outlets
Power 5-5
Overheating, Engine 10-18

P

Park
Shifting Into 9-24
Shifting Out of 9-25
Tilt Mirrors 2-15
Parking
Assist, Ultrasonic 9-39
Brake 9-31
Brake and P (Park)
Mechanism Check 10-24
Over Things That Burn 9-25
Passenger Airbag Status
Indicator 5-11
Passenger Compartment Air
Filter 8-6
Passenger Sensing System ... 3-26
Perchlorate Materials
Requirements, California 10-2
Personalization
Vehicle 5-31
Power
Door Locks 2-7
Mirrors 2-14
Outlets 5-5
Retained Accessory (RAP) ... 9-22
Seat Adjustment 3-4
Steering Fluid 10-19
Windows 2-17
Pregnancy, Using Safety
Belts 3-17
Privacy
Radio Frequency
Identification (RFID) 13-20
Program
Courtesy Transportation 13-13
Proposition 65 Warning,
California 10-2

R

Radio Frequency
Identification (RFID) 13-20
Statement 13-21
Reading Lamps 6-5
Rear Seats 3-9
Rear Vision Camera (RVC) 9-43
Rear Window Washer/Wiper 5-4
Rearview Mirrors 2-16
Automatic Dimming 2-16
Reclining Seatbacks 3-5
Recommended
Fuel 9-48
Recommended Fluids and
Lubricants 11-12
Records
Maintenance 11-15
Recreational Vehicle
Towing 10-70
Reimbursement Program,
GM Mobility 13-7
Remote Keyless Entry
(RKE) System 2-2, 2-3
Remote Vehicle Start 2-4
Replacement Bulbs 10-31

Information Provided by:
DEALER E-PROCESS

Replacement Parts
Airbags 3-32
Maintenance 11-13
Replacing Airbag System 3-32
Replacing LATCH System Parts after a Crash 3-45
Replacing Safety Belt System Parts after a Crash . . . 3-18
Reporting Safety Defects
Canadian Government 13-18
General Motors 13-19
U.S. Government 13-18
Restraints
Where to Put 3-39
Retained Accessory Power (RAP) 9-22
Ride Control Systems
Messages 5-28
Roads
Driving, Wet 9-10
Roadside Assistance Program 13-7, 13-11
Roof
Sunroof 2-18
Roof Rack System 4-2
Rotation, Tires 10-51
Routing, Engine Drive Belt 12-4
Running the Vehicle While Parked 9-26

S

Safety Belts 3-11
Care 3-18
Extender 3-17
How to Wear Safety Belts Properly 3-12
Lap-Shoulder Belt 3-13
Reminders 5-10
Replacing after a Crash 3-18
Use During Pregnancy 3-17
Safety Defects Reporting
Canadian Government 13-18
General Motors 13-19
U.S. Government 13-18
Safety Locks 2-7
Safety System Check 3-17
Scheduling Appointments 13-13
Seats
Adjustment, Front 3-3
Head Restraints 3-2
Heated Front 3-8
Lumbar Adjustment, Front 3-5
Memory 3-7
Power Adjustment, Front 3-4
Rear 3-9
Reclining Seatbacks 3-5
Securing Child Restraints 3-45, 3-48
Security
Light 5-19
Messages 5-29
OnStar® 14-2
Vehicle 2-12
Vehicle Alarm 2-12
Service
Accessories and Modifications 10-2
Doing Your Own Work 10-3
Engine Soon Light 5-12
Maintenance Records 11-15
Maintenance, General Information 11-1
Parts Identification Label 12-1

Information Provided by:
DEALER E-PROCESS

Service (cont'd)
Publications Ordering Information 13-17
Scheduling Appointments ... 13-13
Vehicle Messages 5-29
Servicing the Airbag 3-30
Shift Lock Control Function Check, Automatic Transmission 10-24
Shifting
Into Park 9-24
Out of Park 9-25
Side Blind Zone Alert 9-41
Sidemarker
Bulb Replacement 10-28
Signals, Turn and Lane-Change 6-3
Spare Tire
Compact 10-66
Specifications and Capacities 12-2
Speedometer 5-8
StabiliTrak
OFF Light 5-17
System 9-33
Start Assist, Hills 9-32
Start Vehicle, Remote 2-4
Starter Switch Check 10-23
Starting the Engine 9-21
Steering 9-4
Fluid, Power 10-19
Wheel Adjustment 5-2
Wheel Controls 5-2
Stoplamps and Back-Up Lamps
Bulb Replacement 10-28
Storage Areas
Cargo Cover 4-2
Center Console 4-1
Convenience Net 4-2
Glove Box 4-1
Roof Rack System 4-2
Stuck Vehicle 9-14
Sun Visors 2-18
Sunroof 2-18
Symbols iv
System
Forward Collision Alert (FCA) 9-37
Infotainment 13-20, 7-1
Roof Rack 4-2

Information Provided by:
DEALER E-PROCESS

T

Tachometer 5-8
Taillamps
Bulb Replacement 10-28
Text Telephone (TTY) Users ... 13-6
Theft-Deterrent Systems 2-13
Immobilizer 2-13
Tires
Buying New Tires 10-53
Chains 10-57
Changing 10-59
Compact Spare 10-66
Designations 10-42
Different Size 10-54
If a Tire Goes Flat 10-58
Inflation Monitor System 10-47
Inspection 10-50
Messages 5-30
Pressure Light 5-18
Pressure Monitor System ... 10-46
Rotation 10-51
Sidewall Labeling 10-39
Terminology and Definitions 10-42
Uniform Tire Quality Grading 10-55

Tires (cont'd)
Wheel Alignment and Tire Balance 10-56
Wheel Replacement 10-56
When It Is Time for New Tires 10-52
Winter 10-39
Towing
Driving Characteristics 9-53
Equipment 9-58
General Information 9-53
Recreational Vehicle 10-70
Trailer 9-56
Trailer Sway Control (TSC) ...9-58
Vehicle 10-69
Traction
Control System (TCS) 9-32
Control System (TCS)/ StabiliTrak® Light 5-17
Off Light 5-16
Trailer
Sway Control (TSC) 9-58
Towing 9-56
Transmission
Automatic 9-26
Fluid, Automatic 10-12
Messages 5-30
Transportation Program, Courtesy 13-13
Turn and Lane-Change Signals 6-3
Turn Signal
Bulb Replacement 10-28

U

Ultrasonic Parking Assist 9-39
Uniform Tire Quality Grading 10-55
Universal Remote System 5-36
Operation 5-39
Programming 5-36
Using This Manual iii

V

Vehicle
Alarm System 2-12
Canadian Owners iii
Control 9-3
Identification Number (VIN) 12-1
Load Limits 9-14
Messages 5-24
Personalization 5-31
Reminder Messages 5-31
Remote Start 2-4
Security 2-12
Towing 10-69
Vehicle Care
Tire Pressure 10-45
Ventilation, Air 8-6
Visors 2-18

Information Provided by:
DEALER E-PROCESS

W

Warning
Brake System Light 5-14
Warning Light
Forward Collision
Alert (FCA) 5-16
Warning Lights, Gauges, and
Indicators 5-6
Warnings iv
Cautions and Danger iv
Hazard Flashers 6-3
Washer Fluid 10-20
Wheels
Alignment and Tire
Balance 10-56
Different Size 10-54
Replacement 10-56
When It Is Time for New
Tires 10-52
Where to Put the Restraint 3-39
Windows 2-16
Power 2-17
Windshield
Wiper/Washer 5-3
Winter
Driving 9-12
Winter Tires 10-39
Wiper Blade Replacement 10-25
Wipers
Rear Washer 5-4

Information Provided by:
DEALER E-PROCESS